

PRIMARY 3

Multidisciplinary

HOW THE WORLD WORKS

ORIGINS

Chapter 1: Patterns of Change

Chapter Overview

Patterns of Change

COMPONENT	DESCRIPTION	LESSONS
 Discover	Students discover how they have grown and changed throughout their years in school. Students observe parents to consider origins of how we grow and change. Students observe inherited traits in themselves, then in animals and offspring.	2
 Learn	Students learn how inherited traits in plants and animals contribute to survival in various environments. Students analyze various plant and animal adaptations for survival, such as camouflage. Students explain how adaptations of external features contribute to survival.	6
 Share	Students design, test, and modify bird beaks to allow for survival in different environments. Students create a unique birdsong using elements of music.	2

Connection to Issues



Non-Discrimination: We are all alike, and yet we have differences. We can appreciate and talk about how we are the same and different. We can work together and be cooperative and collaborative.

Citizenship: We belong. We are part of a human family. We all have needs and we all have responsibilities.



Life Skills Addressed

DIMENSION	DESCRIPTION
Learn to Know	<p>Critical Thinking:</p> <ul style="list-style-type: none"> Identify subject/topic-related information. Distinguish between different perspectives and points of view. Explain thinking processes. <p>Problem-Solving:</p> <ul style="list-style-type: none"> Collect problem-related data.
Learn to Work	<p>Collaboration:</p> <ul style="list-style-type: none"> Respect for other opinions. <p>Decision-Making:</p> <ul style="list-style-type: none"> Identify results and expected results.
Learn to Live Together	<p>Respect for Diversity:</p> <ul style="list-style-type: none"> Solicit and respect multiple and diverse perspectives to broaden and deepen understanding. <p>Empathy:</p> <ul style="list-style-type: none"> Demonstrate empathy in communicating with others. <p>Sharing:</p> <ul style="list-style-type: none"> Effective management and organization of tasks.
Learn to Be	<p>Accountability:</p> <ul style="list-style-type: none"> Provide effective feedback. <p>Communication:</p> <ul style="list-style-type: none"> Reading, writing, non-verbal communication skills.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

D. Reading Skills: Fluency

- 1.a. Read texts at grade-appropriate difficulty with a level of accuracy and fluency to support understanding.

E. Reading Comprehension: Literature

- 1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
2.a. Describe and compare characters in a story (such as their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.

F. Reading Comprehension: Informational Text

- 4.a. Ask and answer questions to define the meaning of academic and subject-specific words and phrases.
6.a. Identify the reasons an author gives to support key ideas in a text.
7.a. Compare similarities and differences between the most important points and key details presented in two texts on the same topic.

G. Language: Vocabulary Acquisition and Use

- 1.g. Demonstrate command of the conventions of grammar and usage when writing or speaking.

WRITING:

A. Foundational Skills

- 1.a. Write complete sentences using punctuation, prepositions, and coordinating conjunctions (such as ف, و, ثم) as appropriate.

B. Narrative

- 1.a. Write narratives to express real or imagined experiences or events, using descriptive details and clear event sequences.
1.b. Write a short descriptive paragraph to introduce a situation, narrator, and/or characters.
1.c. Use dialogue and descriptions of actions, thoughts, and feelings to express experiences and events or show the responses of characters to situations.
1.d. Organize an event sequence that unfolds naturally, using temporal words and phrases to signal event order.

D. Process, Production, and Research

- 1.a. Use graphic organizers to plan writing.
1.b. Utilize questions and suggestions from peers to strengthen writing.
1.c. Review and revise personal writing to strengthen it.
2.a. Use a variety of digital tools to produce and publish writing, independently and in collaboration with peers.

MATH:

B. Operations and Algebraic Thinking

- 2.d. Use mental computation and estimation strategies (including rounding to the nearest 1,000) to assess the reasonableness of answers.

SCIENCE:

C. Life Science

- 2.a. Compare characteristics of parents and offspring in plants and animals, not including humans.
2.b. Identify patterns of inherited characteristics in offspring, focusing on external traits and their functions.
2.c. Analyze the interaction between members of a species and the surrounding environment to identify adaptations, focusing on external traits and their functions.

E. Environmental Science

- 1.c. Analyze the interactions between living organisms and nonliving things in a habitat.

F. Engineering Design and Process

- 1.c. Make use of troubleshooting, research and development, invention, and experimentation in problem solving, with support.
1.e. Apply the design process, with modeling and support.

SOCIAL STUDIES:

B. Historical Thinking and Knowledge

- 1.a. Identify different types of sources for historical information (such as textbooks, eyewitness accounts, stories from elders, news articles, songs).
1.b. Distinguish between the reliability of different types of sources for historical information.
1.f. Compare how multiple sources recount the same event (such as nonfiction, fiction, differing perspectives).

C. Understanding the World from a Spatial Perspective

- 2.a. Compare ways that people in a different region adapt to the environment for food, clothing, and shelter.
2.b. Describe how people in different regions of the world modify the environment to meet changing needs for transportation, shelter, and lifestyle.

MUSIC:

A. Developing Musical Sense or Expression

1. Create music that incorporates different pitches and rhythms using various instruments.
2. Explain the effect of using different shades (dynamics, tempo) on what is communicated through music.
3. Improvise with rhythm and melody.

C. Playing Instruments

1. Perform original music and describe expressive intent.

D. Singing

2. Perform with appropriate confidence in front of others.

E. Demonstrating Appropriate Behaviors in Music

2. Encourage and respect others' musical performances.

ECONOMICS AND APPLIED SCIENCES:

B. Childhood Development

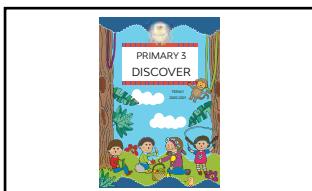
- 1.a. Analyze personal changes in knowledge, skills, or abilities associated with growth.

Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	DISCOVER: Students will: <ul style="list-style-type: none">Define origin.Assess personal growth over time.Predict future changes (next year, five years, 10 years).
2	DISCOVER: Students will: <ul style="list-style-type: none">Compare and contrast parents and offspring.Describe inherited traits.
3	LEARN: Students will: <ul style="list-style-type: none">Identify inherited characteristics in animals and plants.Explain how inherited traits affect an animal's appearance and survival.
4	LEARN: Students will: <ul style="list-style-type: none">Explain how humans survive in different environments.
5	LEARN: Students will: <ul style="list-style-type: none">Explain how plants adapt to an environment.Use historical information to trace adaptations in a water lily.
6	LEARN: Students will: <ul style="list-style-type: none">Participate in a hands-on activity to better understand a specific adaptation.Explain how animals adapt to an environment.Reflect on and annotate an informational text.
7	LEARN: Students will: <ul style="list-style-type: none">Explain the purpose of camouflage.Observe an environment to invent a new style of camouflage.
8	LEARN: Students will: <ul style="list-style-type: none">Investigate the advantages and disadvantages of adaptations.Simulate various bird beaks competing for different foods.Analyze simulation data to make conclusions.
9	SHARE: Students will: <ul style="list-style-type: none">Design a bird beak for a specific food source using limited materials.Create original birdsongs using pitch, rhythm, melody, and tempo.
10	SHARE: Students will: <ul style="list-style-type: none">Offer and seek feedback.Test and revise or improve designs.Perform and observe original birdsongs.

Materials Used

Student book



Pencil



Lesson 1 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Define origin.Assess personal growth over time.Predict future changes (next year, five years, 10 years).	<ul style="list-style-type: none">OriginTimeline	<ul style="list-style-type: none">PencilsStudent books
PREPARATION		LIFE SKILLS
<p>Create a large, blank timeline (same as on the page My Timeline in the student book) to display at the front of the room. Prepare a timeline showing major accomplishments in your own life (for example: learned to walk, started school, learned to drive, first airplane flight or train ride, got married, and so on). Ask students to bring in pictures of their parents (without themselves or siblings in the picture) for the Lesson 2 activity.</p>		<p>Learn to Be</p> <p>Communication:</p> <ul style="list-style-type: none">Reading, writing, non-verbal communication skills.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: We are starting a new theme called "Origins." This word will be used a lot throughout the next three chapters. Has anyone heard this word before?

TEACHER DO: Call on student volunteers who might have familiarity with the word ORIGIN.



STUDENTS DO: Share prior knowledge of the word origin.

TEACHER SAY: We will be learning about the origins of traits in various organisms, the origins of art, and our own historical origins as the people of Egypt. I have used the word origin to describe our learning for each of the upcoming chapters. Origin must be an important word. Do these statements help give you context for what the word ORIGIN might mean?

TEACHER DO: Call on student volunteers to share new ideas about the word ORIGIN. Then hand out student books.

2. TEACHER SAY: Let's work together to define the word origin. We can reference our definition to make connections throughout the chapter. Open your student books to the page Vocabulary: Origin.

TEACHER DO: Facilitate a discussion about the new vocabulary word to walk students through filling out the graphic organizer.

TEACHER SAY: Have you ever wondered where things come from? Have you noticed that birds have beaks, but we have lips? Or we have arms, but birds have wings? What other differences

between humans and animals have you noticed that have made you stop and think, “I wonder where that came from?” Turn to a **Shoulder Partner** and share your thoughts.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER SAY: I am glad we are all so curious. In this chapter, we will explore how different animals have developed certain traits over long periods of time. Not only do birds have beaks and we have lips, but different types of birds have different types of beaks. At the end of the chapter we will use our understanding of the purpose and function of those developed traits to help us engineer a bird beak to fit various food sources. Let’s use a quick brain break as a warm up today to inspire us for our Share Project. Everyone stand up.



STUDENTS DO: Stand up at the tables.

TEACHER SAY: Using your fingers, hands, arms, or some combination, pretend you are a bird with a beak trying to eat food from the table in front of you.



STUDENTS DO: Act out eating food with a beak until teacher signals the end of the brain break.

TEACHER SAY: Well done. We will learn more about bird beaks in a few days. First, we need to discover where traits in general come from. Before we begin exploring animal traits tomorrow, let’s start with something we are a little more familiar with—how WE have changed and developed over time. We will read a story about our friend Yasmeen to get us thinking.

3. TEACHER SAY: Open your books to the page **Yasmeen is Growing**. Yasmeen is getting older and learning so many new things every day.



READ ALOUD: Read the story. Think about how Yasmeen has changed from when she was a baby.



STUDENTS DO: Read the story about Yasmeen.

TEACHER DO: Provide enough time for students to read the story independently or in partners, depending on class literacy levels. Put students into small groups to answer the discussion questions at the bottom of the story page. Read the discussion questions as a whole group before prompting students to record answers.

TEACHER SAY: Now that you are finished reading, let’s discuss what you read in small groups. On the next page there are three questions. Discuss each question to help you think about how Yasmeen has grown and changed throughout her life.

- What new skills did Yasmeen learn? Why do you think she is able to do them now?
- How has Yasmeen changed from when she was a baby?
- What changes do you think will happen as Yasmeen finishes Primary 1?



STUDENTS DO: Discuss answers to the questions in small groups.

*Note to Teacher: Consider using the strategy **Talking Sticks** or **Numbered Heads Together** to help provide structure to group discussions as needed.*

TEACHER DO: As groups finish recording answers, facilitate a whole group conversation about how and why Yasmeen has changed since she was younger. For example, she only now learned how to ride a bike because she is tall enough to reach the pedals and has had time to practice other skills associated with riding a bike (balancing, pedaling, walking, and so on). Students should identify physical changes along with gaining new knowledge. Use **Calling Sticks** to encourage all students to participate.



STUDENTS DO: Discuss changes highlighted in the story.

TEACHER SAY: Yes. Yasmeen’s abilities have developed as she has grown and changed. Can you relate to Yasmeen? Take a moment to think about how your abilities—what you are able to do—have changed and developed since you started school in Primary 1 or maybe even your first year of kindergarten. What can you do now that you could not do when you were younger? How

have you grown and changed since you started school?

Note to Teacher: Changes to discuss could include: losing teeth, growing out of clothes or shoes, getting a haircut, having ears pierced, learning to read, learning to write, accomplishments in the classroom, or athletic abilities.

TEACHER DO: Provide **Think Time** before prompting students to share how they have developed over time.

TEACHER SAY: Let's share using the strategy **Popcorn**. I will start.

TEACHER DO: Share a way you have grown or changed, then call on another student to share. Have around 10 students share to the whole group before allowing all students to share with a **Shoulder Partner**.



STUDENTS DO: Share a new ability they have gained as they have grown.

4. TEACHER SAY: Thank you for taking time to think about how you have grown and changed over time. As humans, we begin our lives as babies. As babies, we cannot do some of the things we can do now, such as walk, talk, or eat on our own. We rely on our parents for everything. As we grow older, we are able to do more and more things independently. Raise your hand to answer the following questions:

- Who can make their own food now?
- Who can get dressed on their own and pick out their own clothes?
- Who does their own laundry?
- Who walks to school on their own?

TEACHER DO: Provide time for students to respond to each question by raising hands.

TEACHER SAY: Let's practice using a timeline to capture how we have grown and changed. We can display our timelines in the classroom so we can look for similarities and differences in our development. Who can describe what a timeline is from previous chapters?



STUDENTS DO: Share ideas from prior knowledge and learning.

TEACHER SAY: A timeline shows important events in order over a period of time. I have a timeline posted here that shows some events from my life. A timeline is a visual representation that puts events in order of when they happened. Let's first work together to make a timeline of Yasmeen's life so far. Turn back to the story. We are going to read the story again together. As we read, if you hear an important development in Yasmeen's life, circle it. We will use these events on our timeline.

TEACHER DO: Read the story aloud to students. Pause at times in the story students should be circling. Events include: learning to walk (1 year old), beginning to talk (1.5 years old), floating in the sea (3 years old), starting school (4 years old), riding a bike (6 years old). Refer to the large timeline poster as you explain the next task. Add another line below or next to your own to show Yasmeen's life events.

TEACHER SAY: Great job identifying ways Yasmeen has changed as she got older. Now we can sequence these changes on a timeline. The beginning of the timeline will represent when Yasmeen was born. [Point to where the line starts at the left.] This is when her timeline starts. If she is 6 now, what year was she born? Start at the year we are in right now and count back or subtract 6.



STUDENTS DO: Mentally calculate the year Yasmeen was born.

TEACHER DO: Model writing in that year as a label for the beginning of the timeline.

TEACHER SAY: Each mark on the timeline indicates one year. Let's fill in the next six years on her timeline.

TEACHER DO: Model how to label the year at each point on the timeline. You may invite students up to help fill in each year. If you feel students are having difficulty identifying just the year, have

students write in Yasmeen's age next to the year as well (example: 2012 – 5 years old).

TEACHER SAY: Now that we have the years labeled on our timeline, we can add in the events of her life. In the story, we read she learned how to walk when she was 1. Who can point to where this would be on the timeline? Great. I can draw a sketch of a child walking. When we sketch, it does not have to be a detailed picture. Let me think. I will draw a circle for her head, oval for her body, and thin rectangles for her arms and legs. Thinking about shapes allows me to easily sketch my picture.

TEACHER DO: Model a sketch on the timeline. Continue to either model sketching for the class or allow students to come help sketch the next four events on Yasmeen's timeline. Complete Yasmeen's timeline as a class.

5. TEACHER SAY: Yasmeen has grown and changed so much, and she is only 6 years old. You are all 8 and 9 years old. You should be proud of all the new skills you have learned and developed in your lives. We can create our own timelines to show others how we have grown. Turn to the page My Timeline.



READ ALOUD: Think of four important changes in your abilities as you have grown. Illustrate those four changes on your timeline.

TEACHER SAY: Take a moment to think about four important changes in your abilities as you have grown. We have already begun discussing these changes.

TEACHER DO: Provide **Think Time**, then have students turn and share four changes with a **Shoulder Partner**.



STUDENTS DO: Share four changes in their abilities with a partner. (This is an opportunity to practice the Life Skill: Communication.)

TEACHER SAY: Now let's illustrate those four important changes on your timeline. Start by writing in the year you were born and labeling the years like we did together for Yasmeen. Then think about how old you were when each change occurred. Illustrate that event at the right place on the timeline. Remember, you may use simple sketches for your illustrations. Thinking about shapes to use in your sketch will make it easier to draw.

TEACHER DO: Assist students as they work with locating where to place each change on the timeline.



STUDENTS DO: Label and illustrate timelines.

6. TEACHER SAY: I love seeing all of your timelines and seeing how you have changed. Now we will hang our timelines around the room so we can observe each other's changes over time. Let's take a **Gallery Walk** to observe each other's timelines.

TEACHER DO: Direct students to cut the timelines out of the student books. Then either tape them around the room or have students lay them on tables around the room. At the end of the day, all timelines should be hung up in the room or kept to be referred to later in the unit.



STUDENTS DO: Cut out timelines to display.

TEACHER SAY: As we walk around and observe each other's timelines, look at when students developed different skills. Did everyone in the class grow and change in the same way at the same time? For example, I know in the story Yasmeen just learned to ride her bike when she was 6. Did anyone learn how to ride a bike before they were 6? After they were 6? We can make comparisons to look for similarities and differences in our timelines. Turn to the next page in your student book, Same but Different.



READ ALOUD: Visit three different timelines. Record one similarity to and one difference from your own growth.

TEACHER DO: Model for students how you would fill out the graphic organizer with a comparison to one timeline in the class.



STUDENTS DO: Move around the room and record similarities and differences.

TEACHER SAY: I wonder: What did you discover about how you and others in the class have developed and changed?

Note to Teacher: Discoveries might include different timing for acquiring a common skill (such as when students learned to walk), or different accomplishments all together as students grow older. (One student might know how to swim while another plays the drums.)

TEACHER DO: Provide an opportunity for students to share observations. Leave the question open ended to listen to what comparisons they observed.



STUDENTS DO: Share discoveries about growth and changes.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we began thinking about our own origins and how we have grown and changed from that point until now. As we get older, we will continue to grow and change and accomplish more. What do you think you will be able to do in five years, when you are 13 years old? What about when you are 18 years old? Turn and share with a **Shoulder Partner**.



STUDENTS DO: Share predictions.

TEACHER DO: **Popcorn** to have several students share ideas for each question.



STUDENTS DO: Share ideas.

TEACHER SAY: For tomorrow's lesson, please bring in pictures of your parents if possible. It is best if you can find a picture that does not have you or any of your siblings in the photo. Write your name on the back of the photos.

Lesson 2

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Compare and contrast parents and offspring.• Describe inherited traits.	<ul style="list-style-type: none">• Inherited• Offspring	<ul style="list-style-type: none">• Student books• Pencils• Red and blue crayons
	LIFE SKILLS	
	Learn to Know	Critical Thinking: <ul style="list-style-type: none">• Identify subject/topic-related information.



Discover (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our previous lesson, we talked about how our knowledge and abilities have changed as we have grown older. Turn and share with a **Shoulder Partner** one new ability you have gained in Primary 3.

STUDENTS DO: Share a new ability.

TEACHER SAY: Our abilities change as we learn new skills. We can control some of these changes by practicing a new skill. Other personal characteristics are not things we can change and learn on our own. For example, I grew taller when I was younger and then as I became an adult, I stopped growing. I did not decide when to stop growing or how tall I would be. My height is a trait I cannot change. Can you think of another trait you cannot control?

STUDENTS DO: Share ideas.

TEACHER SAY: The color of your eyes is another trait that you cannot choose. Have you ever wondered why some adults are taller than others? Or why people have noses that are a different shape? Today we are going to begin looking at traits and characteristics we have and where they come from. We will be discovering the origin for some of our traits.

TEACHER DO: If students have brought in pictures of their parents, collect those now. Make sure the student names are on the backs of the pictures. If most students have brought in pictures, put students into groups of seven or eight. If fewer than half of students brought in pictures, complete the activity as a whole group.

Note to Teacher: Lead the following class discussion with sensitivity to the various styles of families represented in your classroom, such as students who may be adopted or orphaned at young ages. Consider facilitating the discussion at step number 3 about how traits are passed from parents to children before beginning the following activity. Then after the activity, have students consider why adoptive parents might not share traits with their children.

2. **TEACHER SAY:** Raise your hand if someone has ever said to you something like, "You look just like your mom or dad when they were a child." Or, "You have your grandfather's eyes or your grandmother's hair."

TEACHER DO: Allow for students to volunteer responses about personal experiences with being compared to someone in their family. If necessary, you may give an example from your own life.

TEACHER SAY: Let's see if we can find ways that we look similar to our parents. Let's start our work together by playing a quick game. In a small group, you are going to mix together all of your parent pictures. Then, one at a time, your group will look at a picture and try to decide at WHOSE parents you are looking. What are some clues you might look for?



STUDENTS DO: Offer ideas, such as same hair color, similar face shape, similar eyes.

TEACHER SAY: If your parents' picture is being observed, make sure you do not say anything. The clues you are looking for are called traits. Hair color, face shape, eye color, eye shape, and skin color are all different traits. As you try to determine a match, discuss the traits that are similar between your classmate and their parents.

TEACHER DO: Set up the activity based on the number of pictures brought in. If only a few students brought in pictures, have those students stand at the front of the room. Put the rest of the students into small groups and give them one picture each. Have the groups try to determine at whose parents they are looking. As a class, discuss the similar traits between parent and child.

- What traits are similar?
- What traits are different?
- Do all kids have the same hair color as their parents? Face shape?
- Do kids look more like mom, dad, or both? It is always the same?



STUDENTS DO: Match parent and child based on traits. (This is an opportunity to practice the Life Skill: Critical Thinking.)

3. TEACHER SAY: Great job observing traits to make a match between parents and child. We all look a little bit like one or both of our parents. This is because our mom and dad pass information to us before we are born. This information determines traits we will have. We call these INHERITED traits. If a child is adopted, he or she will not look like his or her adoptive parent but would look like his or her birth parents. Let's read a nonfiction passage to learn more about inherited traits. Afterward, we will record our definition for the word INHERITED. Open to the page A Litter of Kittens.

TEACHER DO: Read the passage aloud.

TEACHER SAY: There is a lot of information in this passage. I will read it one more time. To focus our minds on learning about inherited traits, let's mark up the text this time. When you hear an example of an inherited trait, I want you to underline it with a red crayon. When you hear a trait that is not inherited, I want you to underline it with a blue crayon.

TEACHER DO: Adjust the crayon colors as needed for your classroom materials. Read the passage aloud a second time. Move around as you read to observe what students are identifying in the reading.



STUDENTS DO: Underline inherited and not inherited traits in the passage.

TEACHER SAY: Before we share together, turn and share what you identified with a Shoulder Partner.



STUDENTS DO: Share with a partner.

TEACHER DO: Bring the class back together and use **Calling Sticks** to have students identify what is and is not an inherited trait based on the reading.



STUDENTS DO: Share with the class. (This is an opportunity to practice the Life Skill: Critical Thinking.)

TEACHER SAY: Yes, fur color is inherited but not having claws is not. Think about traits that you have. We thought about them earlier. What traits do you have that would NOT be inherited?

TEACHER DO: Call on student volunteers to share possible traits that are not inherited: hair length, hair style, pierced ears, weight.



STUDENTS DO: Share with the class.

4. TEACHER SAY: We read that some traits are inherited, which means passed on. These traits can come from mom and/or dad. But every offspring is not going to look exactly like its parent. We discovered that when we played our matching game earlier. We found traits that were similar to our parents, but we do not look exactly the same. Let's see if we can summarize what we have learned about the word INHERITED. Turn to the page Vocabulary: Inherited.

TEACHER DO: Facilitate a whole group conversation to agree on a simple definition for the word INHERITED for students to record in the first part of the graphic organizer. Then prompt or guide students to complete the rest of the page to help them remember the new word.

5. TEACHER SAY: We have learned a lot about inherited traits so far. Let's see if we can use what we know to discover which offspring belongs to which parent. This will be harder than similar matching you have done in previous grades, though, because all of our animals are cats. Turn to the page Feline Parents and Offspring.



READ ALOUD: Observe the parents. Cut out the offspring images and match the offspring to its parent.

TEACHER SAY: Let's start by observing the parents together. These are all types of felines, or cats. Because they are all types of cats, they have similar features. What do you notice that is similar between all the parents?



STUDENTS DO: Identify similarities.

TEACHER SAY: What are some differences? These differences in traits will help us make connections to the offspring.



STUDENTS DO: Identify differences.

TEACHER DO: To structure student work, suggest students work in pairs or small groups to make connections and discuss possible matches.

TEACHER SAY: Now, cut out the images of the offspring. Look at the traits of the offspring. Do any of the traits look similar to a parent? How can you determine which offspring belongs to each parent? What trait helps you the most in making your decisions? Work with your partner/group to make the matches. We will discuss the parent/offspring matches as a class.



STUDENTS DO: Cut out images and work collaboratively to observe traits to match parents and offspring.

TEACHER DO: Observe students as they work. Have students explain matches by making connections to similar traits between parent and offspring. Once all students have had time to complete the activity, use the following questions to guide a group discussion:

- Which pairs were easier to match? Why?
- Why do you think offspring and parents have the same markings?
- Do all of the offspring look like their parents? Why do you think some look different?



Critical Thinking



STUDENTS DO: Engage in conversation about parent/offspring similarities and differences by answering teacher questions. (This is an opportunity to practice the Life Skill: Critical Thinking.)

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we began observing inherited traits and how those traits help us match parents to offspring. I wonder: Would our matching exercise have been easier or harder if all the parent and offspring pictures were of lions? Share your thoughts and reasoning with a **Shoulder Partner**.



STUDENTS DO: Share ideas with **Shoulder Partner**.

Lesson 3

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Identify inherited characteristics in animals and plants.Explain how inherited traits affect an animal's appearance and survival.	<ul style="list-style-type: none">Inherited	<ul style="list-style-type: none">Student booksPencils
		LIFE SKILLS
		<p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">Explain thinking processes.



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we discovered that inherited traits are passed down from parents to offspring and we can use those traits to match parents and offspring. Let's **Pop-corn** around the room to share one trait that we inherited from our parents.

TEACHER DO: Call on a student to start sharing.



STUDENTS DO: Identify traits inherited from parents.

TEACHER SAY: Today we will continue to learn more about inherited traits and why these traits are important for plants and animals. As we study traits today, I want you to consider this question: Are the beaks of a bird an inherited trait? This will help us as we continue to work toward being able to engineer our own bird beak at the end of the unit.

2. **TEACHER DO:** Hand out student books.

TEACHER SAY: We will start our day with another reading on inherited traits. In this reading, we will be listening for new facts about inherited traits. Take a moment to share with a partner one fact you already know or understand about inherited traits.



STUDENTS DO: Share prior knowledge on inherited traits.

TEACHER SAY: Thank you for sharing. It is important to get our brains ready for what we are about to discuss. Now, let's find out more about inherited traits. Open your books to the page **Parents and Offspring** and read the directions.



STUDENTS DO: Find the correct page and read the directions.

TEACHER SAY: As you read with your partner, listen for new information about inherited traits that you did not know before. You should also listen for information that you already knew but think is important to remember. This information will help us as we continue our study of inherited traits and understanding the origin of those traits.



STUDENTS DO: Read and highlight the nonfiction passage.

TEACHER SAY: Great job collaborating with the person sitting next to you. I want you to be

able to share with others as well. But before we do that, let's record your thoughts in your student book. Turn to the next page, Double Entry Journal.



READ ALOUD: In the first column, record an important fact you highlighted. In the second column, write what you think about the information you recorded.



STUDENTS DO: Record information and journal thinking.

TEACHER SAY: Now you have read the text with a partner and recorded your own thinking about what you learned. It is important to take time to share our ideas. Listening to others helps us make sure we understand what we just read. You may compare what you thought was important with what someone else thought was important to help deepen your understanding. Let's find a new partner with whom to share. Everyone, stand up. **Hands Up Pair Up** to find a partner. Share what you recorded in your double entry journal.



STUDENTS DO: Share with a partner.

TEACHER DO: Listen as students share, then bring the class back together.

3. TEACHER SAY: We know that parents pass on traits to offspring. Before reading this, did you know that this is true for animals AND plants? We also learned that traits can support the survival of plants and animals. Let's think about that statement for a moment. Zebras are discussed in the text you just read. Can anyone think of an example of a trait of a plant that might help it survive?



STUDENTS DO: Share examples from earlier grades, such as a cactus growing thorns or being able to survive with very little water and so on.

TEACHER SAY: In our reading we heard that zebras inherit stripes. The stripes confuse some bugs' eyesight. This prevents them from biting the zebra, which could make the zebra sick. Stripes help the zebras survive. Can you think of another example of how an inherited trait can help a plant or animal survive?

TEACHER DO: Provide **Think Time** before continuing.



STUDENTS DO: Use **Think Time** to reflect, then share ideas.

TEACHER SAY: In your student book, we are going to observe images of parents and offspring. With a partner, you will identify the traits that were passed down from parent to offspring. Then, you will use your understanding of living organisms to conclude how some of the traits contributes to survival. Remember, in order to survive, organisms need to have their basic needs met. What are some basic needs all organisms have?



STUDENTS DO: Identify basic needs.

TEACHER SAY: Yes, organisms need air, water, food, and a safe place to live. Let's open our student books and look at the first image together. Turn to the page Help Me Survive and read the directions.



STUDENTS DO: Find the correct page and read the directions.

TEACHER SAY: The first image is a group of giraffes. Look at the parent and offspring. What traits did the offspring inherit from the parent?



STUDENTS DO: Identify neck length, colors, long legs.

TEACHER SAY: Let's focus on the neck length. How is this trait important for survival? What would happen if the parent did not pass on this trait to its offspring?



STUDENTS DO: Discuss ideas with a partner.

TEACHER SAY: This trait allows giraffes to access food. If this trait was not passed on, the offspring would struggle to survive. As you observe the next pairs, think about how the inherited trait helps meet the organisms' basic needs. Record your answers on the lines below the pictures. Then we will come back together as a group to share what we concluded.



STUDENTS DO: Discuss inherited traits for survival and record answers in writing.

TEACHER DO: Monitor student work to determine when to bring the class back together. Be prepared to ask three or four pairs of students to share responses.

TEACHER SAY: Thank you for discussing your answers with a partner. I heard some partners combining their ideas to determine how the traits contributed to survival.

TEACHER DO: Call on pairs of students to share conclusions for each animal. Ask students to raise hands if they agree (then alternate to if they disagree) with a stated answer. Prompt students to explain conclusions as well as agreement and disagreement.



STUDENTS DO: Share conclusions with the class.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible. Allow a bit of additional time for the closing as it includes writing a brief constructed response.

TEACHER SAY: Today you thought about how inherited traits contribute to an animal's survival. We have also learned about how inherited traits are passed on from both parents. In your student book, use your understanding of inherited traits to answer questions. Turn to the page What I Think and My Evidence.



READ ALOUD: Observe the adult, then the offspring. Use what you know about inherited traits to answer the following questions.

TEACHER DO: Monitor students as they work. Use this task as a formative assessment or as a check for understanding. Be prepared to clarify student understanding tomorrow if students have a misunderstanding of inherited traits.



STUDENTS DO: Respond to the questions in the student book.

Lesson 4

Overview

LEARNING OUTCOMES	MATERIALS	LIFE SKILLS
<p>Students will:</p> <ul style="list-style-type: none">Explain how humans survive in different environments.	<ul style="list-style-type: none">Student booksPencils	<p>Learn to Be</p> <p>Accountability:</p> <ul style="list-style-type: none">Provide effective feedback. <p>Communication:</p> <ul style="list-style-type: none">Reading, writing, non-verbal communication skills.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our previous lesson, we talked about inherited traits and how these traits are important for survival. At the end of the day you wrote a response to the question, "What inherited trait would be important for the jaguar's survival? Why?" Turn to a **Shoulder Partner** and share your response.

TEACHER DO: You may choose to hand out student books, so students are able to reference their writing from the previous day.

STUDENTS DO: Share written responses from the previous day.

2. TEACHER SAY: Thank you for thinking about important inherited traits in animals. These traits help them survive in the environment they live in. In fact, these animals rely on their physical traits for survival in an environment. I wonder, do humans also have to rely on physical traits for survival?

TEACHER DO: Use **Calling Sticks** to select several students to respond.

STUDENTS DO: Share ideas with the class.

TEACHER SAY: Humans have a special advantage over many animals. We rely on the physical traits that help us eat, breathe, and escape danger, but we can also act on the environment around us to change it. After the floods in our last theme, humans built new flood prevention barriers, wider canals, and new homes to replace the ones that were destroyed. Share with a **Shoulder Partner** other examples you can think of where humans changed the environment to meet their needs for survival.

STUDENTS DO: Share ideas with a **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to have students share different modifications: building homes, developing farms to grow food, using natural resources to design clothing, building bridges over rivers, and so on.

TEACHER SAY: Unlike some animals that are only found in a specific region, humans live in many different kinds of environments found across the planet. Let's think more about what makes this possible. What are some of the climates we learned about earlier in the year?

TEACHER DO: Call on volunteers to answer.

TEACHER SAY: Imagine you live where it is warm all year round. What can you do to survive and be comfortable? Tell your **Shoulder Partner** something you could do to survive in a very warm environment.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER SAY: Correct, you can get water from a sink or fountain when you are thirsty or wear light-colored clothing. Our friend Rashad lives in Alexandria where it is typically hot and humid. I remember that he does not like the humid weather. Let's think about how Rashad has adapted to living in this hot environment.

TEACHER DO: Use **Calling Sticks** to have students share ways Rashad could stay cool. This should include ideas around clothing, activities, and homes (shade structures, windows, fans, and so on).



STUDENTS DO: Share ideas on how Rashad can adapt to the hot environment.

3. TEACHER SAY: These are all wonderful ideas of the ways humans can adapt to the environment they live in. We have read many stories this year about Rashad. Let's write our own story about Rashad. You have two options for your story. The first option is to write a story about Rashad on a hot, humid summer day in Alexandria. We all know a lot about being in a hot area, so you should have good ideas to help Rashad. If you want a creative challenge, the second option is to write about Rashad visiting Northern Europe during the winter. This will require imagining what Rashad feels, sees, and does to survive the cold. In both stories, you will write about how Rashad adapts to the environment and maybe even changes the environment around him for survival or comfort. Think for a moment about which story you want to write.



STUDENTS DO: Decide which story option to use.

TEACHER SAY: As we begin, let's review how we write stories. Who can name the story elements that we need to include as we write? For example, all stories will have at least one character. What else?

TEACHER DO: Call on students to share story elements: characters, setting, problem, solution.

TEACHER SAY: Yes. We need to make sure we have characters in our story, a clear setting, a problem our character needs to solve, and how he or she solved the problem. Now, who can remind us of the four steps in the writing process that we learned last term?



STUDENTS DO: Identify the steps (plan, draft, revise, and publish).

TEACHER SAY: Great. Let's begin the first step of the writing process, planning. Turn to the page **Planning My Story**.



READ ALOUD: Use the graphic organizer to plan your story.

TEACHER SAY: You will work with a partner to generate ideas for your story. Think about the characters you want to include. Will Yasmeen or Zeina be in the story too? What will the characters be doing? How will Rashad solve his problem of being too hot or too cold? How will Rashad grow and change in his ability to handle the weather? In the organizer, you will write your ideas for the beginning, middle, and end of your story.

TEACHER DO: Provide time for students to collaborate in **Brainstorming** and planning. Circulate around the room while students fill in the organizer. Ask students to explain how the story will show ways Rashad is adapting to the hot or cold environment. If students struggle with ideas, prompt them with questions about what Rashad might wear, where he might stay (type of house), and what activities he might do.



STUDENTS DO: Collaborate to complete the story planning pages.

TEACHER SAY: Great job planning your story. The next step in our writing process is to draft our story. This means we will write our first version of the story. After we do that, we will be able to share and revise it to make our story better before publishing our final version. Turn to the next page, **First Draft**.



READ ALOUD: Write a first draft of your Rashad story.



STUDENTS DO: Work independently on composing a story about Rashad.

Note to Teacher: Students should complete the story writing independently. If you want to provide support, have students orally dictate ideas for the beginning, middle, and end before writing each section. You may break up the writing task to help guide students who need more structured support.

4. TEACHER SAY: Wow, I am proud of how hard you all worked on your first draft. Now we will share our stories in small groups. One person will read their story while the other students listen. When the story is finished, each listener will give one compliment and ask one question for clarification. Some examples of a question might be:

- Why did Rashad _____?
- I wonder where Rashad _____?
- Who was helping Rashad?
- The question you ask should help the writer think of new details to help improve the story.



Accountability

TEACHER DO: Put students into small groups. Review how to respectfully listen and ask questions. As students work, help facilitate questioning. This is an opportunity for students to practice the Life Skill: Accountability.



STUDENTS DO: Share stories and provide feedback to group members.

TEACHER SAY: Thank you for sharing, complimenting, and questioning. Now we are ready to revise our writing. Think about the questions your group members asked you. Where could you add more detail in your story? Identify two places in your story where you can add detail to clarify what is happening. Then check your writing to make sure you have used punctuation and spelled words correctly.



STUDENTS DO: Revise narrative.

Note to Teacher: If this is the first time students are revising their work, Model how to add details and edit for punctuation and spelling. Students will rewrite the final story based on the revisions.

5. TEACHER SAY: We have now planned, drafted, and revised our writing. We are ready to publish our final story. Turn to the next page in your student book, Publishing.



READ ALOUD: Write your published version of your story.

TEACHER SAY: At the top of the page is a blank line. Before you start writing, give your story a title. Then you may use your revised copy as a reference to write your final draft.



Communication



STUDENTS DO: Publish stories. (This is an opportunity to practice the Life Skill: Communication.)

Note to Teacher: If you have access to technology, have students publish the stories using a computer program. This might require extra time outside of class or working with another teacher (such as a technology teacher) to support student technology use. When students are finished, think of a way to share and display the stories. You may bind them together to make books to be stored in the classroom that students can read independently. You may also extend the story writing to allow students to create an illustration to accompany the narratives.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We worked hard today writing a story to explain how a person adapts to an environment. We wrote about clothing choices, housing choices, and lifestyle choices that would fit into an environment. After writing and sharing your stories, I wonder which environment you would choose if you were going on a month-long trip. Would you prefer the experience Rashad has in Alexandria? Or would you prefer Northern Europe? Share your preferences with a **Shoulder Partner**.



STUDENTS DO: Share with **Shoulder Partner**.



TEACHER DO: Use **Calling Sticks** or **Popcorn** to have students share as a whole class.



STUDENTS DO: Share with the class.

Lesson 5

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Explain how plants adapt to an environment.Use historical information to trace adaptations in a water lily.	<ul style="list-style-type: none">Adaptation	<ul style="list-style-type: none">Pictures of various plants, actual plants, or artifacts of plants, especially of an acacia tree and blue lotus water lilyStudent booksPencils
PREPARATION	LIFE SKILLS	
Collect images, books, drawings, paintings, artifacts, and photographs of various plants, especially of an acacia tree and a water lily.	Learn to Know	Learn to Live Together
	Critical Thinking: <ul style="list-style-type: none">Distinguish between different perspectives and points of view.Explain thinking processes.	Respect for Diversity: <ul style="list-style-type: none">Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our previous lesson, we talked about ways humans can survive in different environments. We wrote stories that showed how Rashad would adapt to a hot or cold environment. Share with your **Shoulder Partner** one difference you remember between how he adapted differently in two stories.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.



STUDENTS DO: Share ideas with **Shoulder Partner**, then the class.

TEACHER DO: Hand out books and pictures, or take students to the library if possible.

2. TEACHER SAY: As humans, we can move from one environment to another and adapt by changing ourselves, such as our clothing or activities. We can also adapt by changing the environment, such as cutting down trees for warmth or planting crops for food. Let's turn our attention to plants. Can a plant move environments?



STUDENTS DO: Share ideas.

TEACHER DO: Plants in nature cannot move from one environment to another, but a creative student might mention house plants as able to "be moved." If this is the case, facilitate a discussion on how well a house plant might react to a major temperature change.

TEACHER SAY: In nature, plants grow in one place and cannot move. Yet, different types of plants grow in every habitat around the world. Plants cannot put on a sweater when it is cold or travel to somewhere warm to live. What are some ways that you think plants can live in different environments?

TEACHER DO: Use **Calling Sticks** to select several students to share.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Those are some good ideas about ways plants can adapt to their environment. Today we are going to take a closer look at two specific plants: an acacia tree and a water lily. Have you ever seen an acacia tree? Show me a **Thumbs Up** if you have. Where—or in what kind of habitat—does it live?



STUDENTS DO: Show **Thumbs Up** and share ideas.

TEACHER SAY: Have you ever seen a water lily? Show me a **Thumbs Up** if you have. Where does a water lily live?



STUDENTS DO: Show **Thumbs Up** and share ideas.

3. TEACHER SAY: We are going to practice an important skill today: listening for details. I am going to read you a description, and you are going to draw what I am describing. If you have seen one of these plants before, try not to just draw from what you remember. Listen carefully to the description and draw what you hear. We will compare our drawings and see if we drew all the details. I will re-read the description several times. Who can summarize for the class what we are going to do?

TEACHER DO: Select a volunteer to describe the directions to the class.



STUDENTS DO: Restate the directions for the class.

TEACHER SAY: Well done. It sounds like you were already listening very carefully. Listening is an important skill in school. It will help you understand new ideas. Open your student books to the page Acacia Tree and Water Lily.



READ ALOUD: In each box, draw a picture of what the teacher describes.

TEACHER SAY: Listen carefully as I read some information about an acacia tree.

An acacia tree is adapted to live in the desert where it is hot and dry. The main problem that plants face in the desert is not having enough water. The tree has very long roots that help it reach water deep underground. The short trunk splits into two or three main trunks just above the ground. This means the tree spreads out wide instead of growing tall. The leaves of the tree only grow at the top of the branches and spread out wide in the shape of an umbrella. The branches also grow long thorns to keep animals from eating the leaves.

TEACHER DO: Read the description one or two more times as students finish their drawings.

TEACHER SAY: Now, compare your picture to your **Shoulder Partner's** picture. Did you include all the important details? How are they similar and different?



STUDENTS DO: Share drawings with **Shoulder Partner** and analyze similarities and differences.

TEACHER DO: Show students a picture of an acacia tree.

TEACHER SAY: Here is an acacia. How is your picture the same? Different?

TEACHER DO: Use **Calling Sticks** to select several students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Next, listen carefully as I read information about a water lily.

A water lily lives in freshwater, like rivers. It has big, round leaves that float on the water to attract sunlight. The top of the leaf is waxy to keep water out. The underside of the leaf has thorns to protect it from fish and other things that want to eat it. The water lily's stems are long

and flexible and anchor the plant in the mud at the bottom of the water. The large, colorful flower petals are shaped like rounded triangles, or arches. The flowers only open for a few hours each day.

TEACHER DO: Read the description one or two more times as students finish their drawings.

TEACHER SAY: Now, compare your picture to your **Shoulder Partner**'s picture. Did you include all the important details? How are they similar and different?



STUDENTS DO: Share drawings with **Shoulder Partner** and analyze similarities and differences.

TEACHER DO: Show students a picture or an actual water lily.

TEACHER SAY: Here is a water lily. How is your picture the same? Different?

TEACHER DO: Use **Calling Sticks** to select several students to respond.



STUDENTS DO: Share ideas with the class. (This is an opportunity to practice the Life Skill: Critical Thinking.)

TEACHER SAY: We have just listened to descriptions of the traits of these two plants. Based on your drawing and what you remember from the descriptions, turn to your **Shoulder Partner** and tell him or her about the traits that help the acacia tree and water lily survive in their environments.



STUDENTS DO: Share ideas with **Shoulder Partner**.

4. TEACHER SAY: Did you know that the acacia tree and the water lily are very important plants in Egypt? They can be found in Egyptian artwork from thousands of years ago—from ancient times. Let's learn more about why these plants were considered important and special in ancient Egypt and see how that compares to today. How do you think we could learn about the acacia and water lily back in ancient times?

TEACHER DO: Use **Calling Sticks** to select several students to share.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: You have some great ideas. We can use historical information to explore the origins of the water lily in Egypt. Sources for historical information may include textbooks, drawings or paintings, or artifacts. If we want to learn about how these plants are viewed today, we could add news articles and photographs to our sources. Open your student books to the page **Analyzing Historical Information**.



READ ALOUD: Use historical information to describe a water lily.

TEACHER SAY: On these pages you will find examples of four types of sources for learning about water lilies throughout our history and today. Examine each source and consider what information you can learn from it. Answer only the first question next to each image to start. Remember, we are looking for information about the flower itself, as well as its importance to ancient Egyptians. Record your ideas next to each image.

Note to Teacher: Consider reading the text from the textbook excerpt aloud for the class and discussing what information can be gleaned from the image in this excerpt to Model the learning experience for students.



STUDENTS DO: Study the various sources and record what is communicated about the water lily.



TEACHER DO: Circulate around the room to assist students as needed. Prompt students using questions such as: Why do you think this resource was created? How does it make you feel? This is an opportunity for students to practice the Life Skill: Critical Thinking.

TEACHER SAY: When we learn information, considering the ORIGIN of the information can help us figure out what type of information we might get. We have recently learned the word origin. What do you think it means in this new context? What do I mean by the ORIGIN of a source for information?



STUDENTS DO: Share ideas.

TEACHER SAY: Good. The origin of a source would be its author or creator. Look at the second question next to each image. Consider the possible authors or creators of each source. Record your ideas, then share them with a **Shoulder Partner**.



STUDENTS DO: Consider the origin of each source, discuss with **Shoulder Partner**.

TEACHER SAY: Good job using your thinking skills to imagine the origin of each source. Let's discuss why a source's origin might matter. Look at the artwork at the bottom of the first page. If I wanted to learn what a water lily looks like so that I could find one to give to a friend, would this source help?



STUDENTS DO: Share ideas.

TEACHER SAY: This source may not help me much. The artist is using a repeated pattern to demonstrate the beauty and importance of the water lily. The artist's goal was not to create an exact likeness of the water lily. Let's think about what each of these sources might be used for. If you wanted to learn about what a water lily really looks like, which source would be the most helpful?



Respect for Diversity



STUDENTS DO: Share ideas. (This entire conversation is an opportunity for students to practice the Life Skill: Respect for Diversity.)

TEACHER SAY: What if you wanted to study the influence of the water lily in a people's culture and art?



STUDENTS DO: Share ideas.

TEACHER SAY: What about the textbook and artist's pattern? Can you imagine why you might turn to these resources?



STUDENTS DO: Share ideas.

TEACHER SAY: You have done a wonderful job today thinking hard about sources for information. Whenever we look at historical information, we need to be aware of who created it and why, so that we know what kind of information it offers.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We explored ways that plants can adapt to their environment today. We also used historical information to compare our knowledge of water lilies today and in the past. What other information could help you trace the origins of the water lily in Egypt? Share with a **Shoulder Partner**.



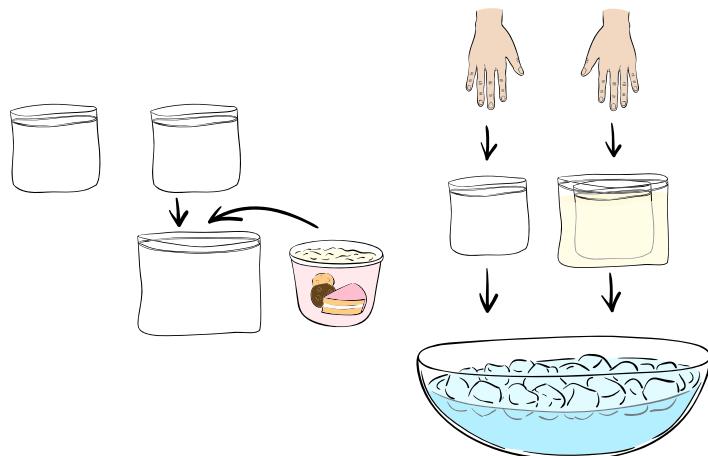
STUDENTS DO: Share ideas with **Shoulder Partner**.

Lesson 6

Overview

LEARNING OUTCOMES	MATERIALS	LIFE SKILLS
<p>Students will:</p> <ul style="list-style-type: none">Participate in a hands-on activity to better understand a specific adaptation.Explain how animals adapt to an environment.Reflect on and annotate an informational text.	<ul style="list-style-type: none">Colored pencilsChart paperMarkersStudent booksPencilsPer group or as a demo:<ul style="list-style-type: none">Three sealable quart- or gallon-size plastic bagsLarge bowl or bucketWaterIceSolid vegetable shorteningTwo thermometers	<p>Learn to Know</p> <p>Problem-Solving:</p> <ul style="list-style-type: none">Collect problem-related data.
PREPARATION		<p>Learn to Be</p> <p>Communication:</p> <ul style="list-style-type: none">Reading, writing, nonverbal communication skills.

If materials are available for a student exploration or teacher demonstration, prepare appropriate number of bags in advance. Each group would need one set of two bags. Fill one plastic bag per group halfway with vegetable shortening. Take a second plastic bag and turn it inside out. Place it inside the bag with shortening and connect the two seams. (You may also tape the bags together.) This should allow a student to put their hand in the now double-walled bag without touching the shortening directly. The third plastic bag does not require any preparation. Fill the bucket(s) or bowl(s) with ice and water.



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous few lessons, we have talked about ways that plants and humans adapt to different environments. We have learned that humans can adapt to changing environments more easily than plants. Turn to your **Shoulder Partner** and tell them why you think this is the case.



STUDENTS DO: Discuss with **Shoulder Partner**.

TEACHER SAY: For plants and animals other than humans, adaptation of traits is a slow, steady process that may take hundreds, thousands, or even hundreds of thousands of years. Humans do not need to rely on the slow adaptation of traits because we can adapt our actions and the environment around us. If you lived in the Arctic polar regions, how could you adapt to the weather that is so different from Egypt?

TEACHER DO: Use **Calling Sticks** to select several students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Yes, you could wear very warm clothing, build a shelter to keep you warm, and build rafts or boats to get around so you do not have to swim through the water. Can animals do these things?

TEACHER DO: Use **Calling Sticks** to select several students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Living things have characteristics, or adaptations, that help them survive in their environment. An adaptation occurs when living things are born with traits that help them survive and reproduce. For example, thick, white fur is an adaptation in polar bears. It helps them stay warm in their cold Arctic home. It also helps polar bears blend in with the snow as they sneak up on their prey.

TEACHER DO: Hand out student books.

2. TEACHER SAY: Let's explore another adaptation of Arctic animals that helps them stay warm. Open your student books to the page Blubber.



READ ALOUD: Complete the experiment, record your data, and answer the questions.

Problem-Solving

Note to Teacher: If materials are available, allow groups of students to conduct this investigation. If not, call each row of students to come up and feel the difference between the bags. Ask students to take temperatures of each bag and record temperatures on large chart paper for students to record in the student books. Review classroom safety: wipe up spills, handle thermometers carefully, do not get shortening on clothing. This is an opportunity for students to practice the Life Skill: Problem-Solving.

TEACHER SAY: Polar bears work to keep their body temperature constant, or the same. They have layers of fat and blubber. Blubber is thick fat with many blood vessels. Let's investigate how blubber is an adaptation that can help a polar bear survive in the Arctic. As I read the directions aloud, complete the investigation.

TEACHER DO: Read the directions aloud and pause as students complete each part.

TEACHER SAY: Place one hand in an empty plastic bag, and your other hand in the double-walled bag with shortening in it. Place both hands with the bags over them into the ice water for a few seconds.



STUDENTS DO: Take turns completing the directions.

TEACHER SAY: Describe the feeling inside each bag. Are they the same or different? How? Record your answers.



STUDENTS DO: Record responses.

TEACHER SAY: Use the thermometer to record the temperature for each bag while it is in the ice water.



STUDENTS DO: Record temperatures.

TEACHER SAY: Does the data you recorded support what you noticed when you put your hands in the bags? Explain your thinking.



STUDENTS DO: Write responses with explanations.

TEACHER SAY: Let's clean up and return our materials before we continue.

TEACHER DO: Collect plastic bags and dump water and ice into sink or larger bucket. Wipe up any spilled water.

Note to Teacher: Plastic bags with shortening can be frozen and reused in another class.



STUDENTS DO: Assist with clean up.

3. TEACHER SAY: Thank you for helping me clean up. Turn to the page All About Blubber. We are going to learn more about blubber from this text. As we read, we are going to practice thinking about and reflecting on the information we encounter. Listen carefully as I read the instructions.



READ ALOUD: As you read the informational text, use the following colors to reflect on your learning. Mark the parts you can explain to someone else in blue. If there is something you are still confused about, mark it red. Use green to mark something new or exciting that you learned.



Communication



STUDENTS DO: Use colors to annotate reading. (This is an opportunity to practice the Life Skill: Communication.)

Note to Teacher: Because the text contains quite a bit of unfamiliar vocabulary, you may choose to read the informational text aloud based on the needs of your students.

TEACHER SAY: Share your markings on the informational passage with a **Shoulder Partner**.



STUDENTS DO: Share ideas with **Shoulder Partner**.

4. TEACHER SAY: You are becoming great readers. You might want to tell your family about our investigation today. If your parents ask why one hand felt colder than the other, what would you say? Turn to your **Shoulder Partner** and practice explaining.



STUDENTS DO: Practice explaining the scientific phenomenon experienced in the investigation.

TEACHER SAY: Remember, these adaptations did not happen right away. Brown bears moved to the north in search of food. Over a long period of time, bears with lighter colored fur survived to reproduce more often than those with darker colored fur. Eventually, all the bears in the Arctic had light colored fur. The same with blubber. This was an adaptation that developed over a long period of time to help the bears survive the harsh, cold environment. Let's **Popcorn** to describe some ways other animals might adapt to their surroundings.



STUDENTS DO: Share ways animals adapt to various environments.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: It is important to learn how plants and animals adapt to the environment because as humans change the earth's environment, many plants and animals are in danger of not having time to adapt. For example, warming temperatures in the Arctic are melting sea ice and changing the environment for polar bears. If you lived in the Arctic as it grew warmer and ice melted, how could you adapt?



STUDENTS DO: Share ideas.

TEACHER SAY: Yes, you could wear clothing that was less warm or build stronger boats and rafts to travel across longer stretches of water between the ice caps. If ice melted all the way down to soil, you could even plant crops to eat. Can polar bears adapt in any of these ways? Why or why not?



STUDENTS DO: Share ideas.

Lesson 7

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Explain the purpose of camouflage.Observe an environment to invent a new style of camouflage.	<ul style="list-style-type: none">Camouflage	<ul style="list-style-type: none">MarkersCrayonsGlueStudent booksPencils
PREPARATION	LIFE SKILLS	
<p>Be prepared to take students outside of the classroom. If outdoor access is not available, create school habitats within the classroom or building. Have three or four different locations prepared for students to observe. Examples include: playground, grassy field, courtyard area, classroom, sandbox.</p>	<p>Learn to Work</p> <p>Decision-Making:</p> <ul style="list-style-type: none">Identify results and expected results.	



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we learned about how adaptations can contribute to an animal's survival in a specific area. Who can share what they remember about our investigation?

TEACHER DO: Call on student volunteers to summarize previous learning.

STUDENTS DO: Describe the blubber investigation.

2. **TEACHER SAY:** Today we will continue to learn how animals adapt to specific environments so that we can build a better bird beak for our Share Project. We will learn to analyze an adaptation to the environment that organisms use in order to stay safe from predators. Has anyone heard the word CAMOUFLAGE before?

STUDENTS DO: Share prior knowledge on camouflage.

TEACHER SAY: Camouflage is the act of blending into the environment through the use of colors or patterns. Blending in helps protect an animal from predators. Adapting to the environment by camouflaging develops over time. One example is the peppered moth in London in the 1800s. Peppered moths were both light colored and dark colored, but most of them were light. The dark-colored moths were easy to see on light-colored bark of trees, so predators found them easily. But in London, the environment was changing due to human activity. People were burning coal, causing dark soot to stick to the trees. What do you think happened to the light-colored moths? What do you think happened to the dark-colored moths?

STUDENTS DO: Make predictions on the outcome of the different colored moths.

TEACHER SAY: Yes, as the trees changed, the moths that survived were the dark-colored moths. What do you think happened next?

STUDENTS DO: Make predictions based on understanding of inherited traits as a way to help survival.

TEACHER DO: Call on student volunteers to share predictions before continuing.

TEACHER SAY: These dark-colored moths passed on a darker color as a trait to their offspring. The color was an inherited trait passed down from parents to offspring. Over time, the darker color trait allowed for more successful survival and therefore became more common. The moths adapted to the new environment. Their color camouflaged into the new colors of the environment. Have you ever seen an animal camouflaged in our environment?

TEACHER DO: Use **Calling Sticks** to have students share an example of camouflage.



STUDENTS DO: Share examples of or experience with camouflage.

3. TEACHER SAY: Let's look at some real-life examples to help us understand how camouflage can help protect an animal from predators or help an animal sneak up on and catch prey. Turn to the page **Can You See Me?**



READ ALOUD: Circle the animals camouflaged in each picture. Then write a sentence to explain how camouflage can aid in survival.

TEACHER DO: Have students work independently to observe and locate each animal. Then, before writing, students can share ideas with a **Shoulder Partner**. Students should apply an understanding of basic animals needs and habitat to explain the importance of camouflage.



STUDENTS DO: Locate animals in each image, then write an explanation of camouflage.

4. TEACHER SAY: Well done. Now let's see what we can learn about different environments. We are going to observe areas around our school. We will look for characteristics of these areas or habitats and then design an animal that could effectively hide there. You will hide your animal in your selected habitat, then other students will try to find your animal. We will see if any habitat is easier or harder for animals to camouflage. Let's start by observing [name three areas you will observe as a class]. We can take notes on each habitat in our student books. Open to the page **Around My School**. Start by filling in the name of each place we will observe inside each box.



READ ALOUD: Record characteristics of each habitat.

TEACHER DO: Move to each predetermined location. If possible, the locations should be close together. Encourage students to stop and share observations in each location. Take time for students to record important information that will help them design a new animal. This includes the colors and patterns observed. When you return to the room, divide students equally into the three location groups.

5. TEACHER SAY: Now that we have observed the habitats, you will each design one bird to hide in that habitat. Turn to the next page, **Camouflage Me**.



READ ALOUD: Design a camouflage to help your bird blend into the selected habitat. Cut out the bird when you are finished.

TEACHER SAY: Each of you will design one bird. Once everyone is finished, we will go back to each habitat to hide our birds and take turns searching for each bird that is hidden. As you design your birds, what important characteristics should you be considering? How will you effectively camouflage your bird?



STUDENTS DO: Share camouflage ideas.

TEACHER DO: Provide 10 minutes for students to camouflage birds. As students work, prompt them to explain why they are using specific colors or patterns and where within the habitat they will place the birds.

6. TEACHER SAY: Now that we all have our birds, we are ready to test our camouflage. Let's label our groups so that I can give clear instructions. [Assign a letter to each group: group A, group B, and group C.] One group will hide birds, then another group will search for the camouflaged birds. We will keep track of how long it takes to find all the birds. We will then

compare to see which habitat had the best camouflage and why certain habitats were easier or more difficult.

TEACHER DO: Take the class to each location. Have group A hide birds in the habitat first, then group B can work to locate all the birds. Next, group B hides birds and group C searches. Finally, group C hides birds and group A searches. Use a stopwatch or timer to keep track of how long it takes to find all the birds in each round. After completing the activity, bring the class back to the room.

Note to Teacher: You may integrate math into this learning experience by comparing the times. Students can identify the greatest and least amount of time used, then use subtraction to determine how much longer it took to find the birds in one habitat versus another.

TEACHER DO: Display the time data from each test at the front of the room.

TEACHER SAY: Great job camouflaging and searching as predators. Looking at the time data we collected, which habitat was the easiest to find the birds? Which was the most difficult? Why do you think this was the case? Turn and share your ideas with a **Shoulder Partner**.

Collaboration

 **STUDENTS DO:** Share conclusions from the activity with a partner. (This is an opportunity to practice the Life Skill: Collaboration.)

TEACHER SAY: Some habitats make it easier for animals to camouflage than others. Think about your habitat and all the birds your group created. Which bird do you think would survive the best? Why?

TEACHER DO: Choose one or two students from each group to answer.

 **STUDENTS DO:** Share ideas.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we explored and then explained how the adaptation of camouflage supports survival and how camouflage develops over time. Let's apply what we have learned to a new context. Listen to this story:

Some students went to the banks of the Nile River to search for animals. They wanted to find 10 different animals but only saw two: a bird walking on the muddy banks and a dark fish swimming in the clear water. They were hoping to find turtles, snakes, locusts, and maybe even a crocodile.

Why do you think the bird and the fish were so easy to find? Why do you think the students did not see other organisms in the habitat? What do you think the other organisms looked like?

Stand up. Let's use **Hands Up Pair Up** to share our thinking.

 **STUDENTS DO:** Share thoughts with classmates.

Lesson 8

Overview

LEARNING OUTCOMES	MATERIALS	LIFE SKILLS
<p>Students will:</p> <ul style="list-style-type: none">Investigate the advantages and disadvantages of adaptations.Simulate various bird beaks competing for different foods.Analyze simulation data to make conclusions.	<ul style="list-style-type: none">Chart paperMarkersTiming deviceStudent booksPencilsSmall paper cups (one per student)Per group:<ul style="list-style-type: none">One pair of scissorsPlastic spoonsClothespinsTweezersBinder clipsPaper clipsRubber bandsToothpicksDried macaroniSeedsDry beansCardboard box lids or trays	<p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">Explain thinking process. <p>Problem-Solving:</p> <ul style="list-style-type: none">Collect problem-related data.
PREPARATION	Prepare class data chart in advance. Organize materials for easy distribution. Place items to represent beaks (scissors, binder clips, tweezers, clothespins, plastic spoons) in a small plastic bag for each group. Scatter seeds, rice, dry beans, paper clips, rubber bands, toothpicks, and dry macaroni on a cardboard box lid or tray for each group.	



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we explored ways that birds can camouflage or hide in plain sight. What are some other animals you can name that use camouflage? Let's Popcorn around the room.



STUDENTS DO: Share ideas with the class.

2. TEACHER SAY: Scientists often make careful drawings of the plants and animals they see on journeys. One scientist noticed that in many habitats, food is limited and the types of foods available may vary. Animals that have traits that are suited for eating available foods will be more likely to survive and reproduce. Did you know that different birds have many different types of beaks? Let's explore whether different beak styles allow birds to eat different types of food.

TEACHER DO: Hand out student books.

TEACHER SAY: Open your student books to the page Beaks. Turn to a **Shoulder Partner** and talk about the many different styles of beaks you see on this page. Think about the title of the type of beak, for example, "spoon beak." Talk about why we use the word spoon to describe these beaks.



STUDENTS DO: Discuss the various bird beaks shown on the page.

TEACHER SAY: As we investigate bird beaks, look back at this page of examples. Think about the environment the bird lives in and how that affects the kind of beak they have. What do you think each bird pictured eats? Why?

TEACHER DO: Use **Calling Sticks** to select several students to respond.



STUDENTS DO: Share ideas with the class.

3. TEACHER SAY: Well done. Let's turn to the page Beak Investigation. We will explore different styles of beaks and see what kinds of food they can collect. This will help us later in our Share Project as we design original beaks. First, read the directions with a **Shoulder Partner**.



STUDENTS DO: Read directions with partner.

TEACHER SAY: We know that adaptations are inherited characteristics that increase an organism's chance of survival. Those with the most helpful adaptations will be the most likely to live long enough to reproduce and pass along their traits. Let's investigate whether bird beaks might be adapted to certain types of food. It is your turn to predict what you think will happen.

TEACHER DO: Hold up samples of all of the materials students will use to represent different beak styles, as well as the materials that will represent food. Prompt students to record a prediction about which style of beak will collect the most food. Then review the procedures and safety precautions for the experiment (such as students should not eat or throw any materials). Hand out materials for the experiment. Hang the prepared class data chart where the class can see it.

Decision-Making



STUDENTS DO: Record predictions of the most effective beaks. (This is an opportunity to practice the Life Skill: Decision-Making.)

TEACHER SAY: Each group will get a plastic bag with items that represent different types of bird beaks: scissors, binder clips, tweezers, clothespins, and plastic spoons. Choose one item to represent your bird beak, then record that item on your data table in the column labeled BEAK.



STUDENTS DO: Choose an item to represent a beak and record the item in the first column of the data collection chart.

TEACHER SAY: Each group will also have a paper cup and a tray that contains seeds, rice, dry beans, paper clips, rubber bands, and dry macaroni to represent different types of food for the bird. The cup represents your bird's stomach. It must remain upright at all times. You must hold your beak in one hand, and your stomach in your other hand, close to your body. Only food that is placed in the cup by the beak will be considered "eaten." Show me how you will hold your beak and cup.



STUDENTS DO: Demonstrate how to hold beak and stomach.

TEACHER SAY: When I say GO, you will have 20 seconds to "eat" by using the beak you have chosen to pick up food from the tray and deposit it in the cup. Collect as much food in your stomach as possible until I say STOP. Then, you will carefully empty your cup on the table and count the contents by type. Who can repeat the directions back to me?

TEACHER DO: Call on a volunteer student to repeat the directions.



STUDENTS DO: Repeat directions with prompting if needed.

TEACHER SAY: Thank you for paying such close attention to the directions. Ready? Prepare your beaks. GO.

TEACHER DO: Use a timing device (or count to 20) to time students for 20 seconds.



STUDENTS DO: Using beaks, collect food in stomachs.



TEACHER SAY: Well done. I see that some of you may still be hungry. Count how many of each type of food you collected, then record your data in the data table.

STUDENTS DO: Record data in the data table. (This is an opportunity to practice the Life Skill: Problem-Solving.)

Note to Teacher: If time allows, have students return beaks to the group bag and have each student choose another beak to run the investigation again.

TEACHER SAY: Before we continue, please place all the beaks back in the plastic bag and place all the food back in the tray. Return the materials to me, please.

STUDENTS DO: Clean up area and return materials.

TEACHER DO: Save the trays and food items for testing Share Projects in the next lesson. Display a poster with the class data table where all students can see. Provide a marker for students to record data.

4. TEACHER SAY: Thank you for helping to clean up our area. As I call your row, please enter your results on our class data table on the poster paper.

STUDENTS DO: Enter data on the class chart.

TEACHER DO: Multiple students will enter data for each beak style and type of food. Circle the three highest numbers in each cell on the class data table. Facilitate a class discussion to add the three highest numbers in each cell, then have students record that number in the data table provided in the student book.

STUDENTS DO: Orally add the results and record the totals in the data table provided in the student books.

TEACHER SAY: Looking at our class data, work with a **Shoulder Partner** and answer the questions.



STUDENTS DO: Collaborate to write answers to the questions. (This is an opportunity to practice the Life Skill: Critical Thinking.)

TEACHER DO: Facilitate a discussion about the results of the investigation, prompting students to recognize which types of beaks are better suited to collect which types of food. Ask students to justify their answers using their experience from the activity or the class data.

5. TEACHER SAY: Okay, let's see what we have learned. Listen carefully to a brief story. One day, a swarm of 10 different types of birds traveling together all landed on a new island where no bird had ever been before. The only food they could find was rice. Which birds would have the best chance of surviving?

STUDENTS DO: Share ideas with the class.

TEACHER SAY: Now imagine that we all went back to the island 1,000 years later. What would you expect to see? What type of birds would you find on the island?

STUDENTS DO: Share ideas.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We learned a lot today, but it is always good to still be curious. Let's **Popcorn** around the room to close. Share something you are still wondering about.

STUDENTS DO: Share questions with the class.

Lesson 9

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Design a bird beak for a specific food source using limited materials.Create original birdsongs using pitch, rhythm, melody, and tempo.	<ul style="list-style-type: none">MelodyPitchRhythmTempo	<ul style="list-style-type: none">Recordings of birdsongsVariety of musical instruments (if available)Student booksPencilsVarious art supplies per pair of students, such as:<ul style="list-style-type: none">ToothpicksConstruction paperClothespinsAluminum foilPlastic forksPlastic spoonsSmall paper cupsBottle capsRubber bandsPaper clipsPopsicle sticksGlueTape
PREPARATION	LIFE SKILLS	
<p>Find a variety of birdsongs for students to listen to. Songs may be played on a phone, computer, or another device. Use trays and food sources from the previous day's activity</p>	<p>Learn to Work</p> <p>Collaboration:</p> <ul style="list-style-type: none">Respect for other opinions. <p>Learn to Live Together</p> <p>Sharing:</p> <ul style="list-style-type: none">Effective management and organization of tasks.	



Share (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we explored how different beaks are suited for eating different types of food. Let's apply what we learned to a thinking question: What if we observed birds in a lake or pond habitat? Which of the bird beaks do you think would be best adapted and why?

TEACHER DO: Use **Calling Sticks** to select several students to respond.

 **STUDENTS DO:** Share ideas with the class.

TEACHER SAY: Let's use everything you have learned in this chapter to create your own bird beak with a partner. You will test and improve your beak. In order to appreciate another wonderful trait of many birds, we will also listen to and analyze some birdsongs today. You will be able to create a unique birdsong to go with your creative bird beaks. Does anyone know why birds sing?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Birds use different sounds to attract mates so they can pass on their traits. Birdsongs have different pitches, rhythms, and melodies. If you listen carefully, you can hear the different patterns in their songs.

TEACHER DO: Hand out student books.

2. TEACHER SAY: As we start our Share Project today, let's review our expectations. Turn to the page My Self-Assessment. Review the rubric with a **Shoulder Partner**, and raise your hand if you have any questions.

TEACHER DO: Answer questions and clarify parts of the rubric as needed.

3. TEACHER SAY: Before you begin creating your bird beaks, let's listen to some birdsongs. Close your eyes and listen.

TEACHER DO: Play various birdsongs for students.



STUDENTS DO: Close eyes and listen to various birdsongs.

TEACHER SAY: You can hear the different parts of music in birdsongs. By listening carefully, patterns appear. PITCH refers to how high or low a sound is. Let's see if we can trace some songs in the air with our fingers. Listen for the pattern, then move your finger low for a low pitch or note, and high for a higher note.

TEACHER DO: Play the first birdsong a few more times, tracing the pitch with a finger in the air.



STUDENTS DO: Trace the notes of the song as they rise and fall.

TEACHER SAY: TEMPO is how fast or slow the overall song is. Let's listen to the first song again and try to describe the tempo. Is it fast, slow, or some combination? Do you hear a pattern in the tempo?

TEACHER DO: Play the first birdsong again, pausing periodically to discuss the tempo with examples.

TEACHER SAY: Well done. The next element we will listen for is the RHYTHM. Rhythm is the combination of how long each note is held. In this song, there are some short, quick notes and some long, held-out notes. Let's see if we can drum the rhythm of the song quietly on our tables as we listen. Remember, listen carefully for the pattern, then see if you can drum the pattern.



STUDENTS DO: Listen to a birdsong to identify the pattern, then drum the rhythm.

Note to Teacher: If you are familiar with rhythm notation or can collaborate with a music teacher, extend this learning experience by teaching students how to write down the rhythm as a drum pattern, showing eighth notes, quarter notes, half notes, and whole notes depending on the song chosen. Students could also use their own notations to record the rhythm as long as they provide a key for what each symbol means.

TEACHER SAY: Open to the page Sing Me A Song. As I play the next two birdsongs, write a description of the sounds you hear using the words pitch, tempo, melody, and rhythm.



STUDENTS DO: Listen and describe birdsongs using pitch, tempo, melody, and rhythm.

TEACHER SAY: Let's hear some of your descriptions.

TEACHER DO: Use **Calling Sticks** to select several students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Excellent. As you create your new bird beak, think of what kind of song your bird might sing. Create your own unique birdsong. Use any of the instruments we have in class, as well as your voices. Consider the parts of music we just discussed and experienced.

Note to Teacher: If possible, allow students to record their birdsongs using a cell phone or other device.

TEACHER DO: Place materials in a central location for students to pick up when they are ready to build and test.

TEACHER SAY: We will use the engineering design process that we have used in other chapters. Who can review the parts of the Engineering Design Process for us?

TEACHER DO: Use **Calling Sticks** to select several students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Well done. We start with an idea and plan it. Then we build, test, and improve our idea. Open to the page Building a Better Beak.



READ ALOUD: Use these pages to brainstorm, plan, test, and improve your beak design.



Sharing

Note to Teacher: During the next several steps, circulate around the room as students brainstorm, plan, build, and test. Answer questions and prompt students to stay on task. Since students have had multiple experiences with this process, allow them to self-pace if they are ready. Use the cues provided below as prompts, but encourage students to practice the Life Skill: Sharing to effectively manage their own tasks.

TEACHER SAY: You have already tested different beak shapes and observed your peers testing others. Use what you have learned to improve on or combine some of the styles you have observed. On your own, **Brainstorm** a few ideas for a new bird beak. This is the time to push your imagination and think of as many solutions as possible.



STUDENTS DO: Brainstorm individually.

TEACHER SAY: When you have a few ideas written, share them with a partner. Use parts of both of your ideas to plan a new beak. Sketch and label the materials you will use.



Collaboration

TEACHER SAY: Using the materials available, build your beak, test it using the food sources from the previous lesson, and record your results. Ask another pair if you need help with any step. If all four of you are stuck, raise your hands and I will come assist you.



STUDENTS DO: Build beak, test, and record data.

TEACHER DO: Prompt students to clean up any extra materials and carefully store the beak designs a few minutes before the lesson ends.

TEACHER SAY: While you clean, work on your special birdsong in your mind or by softly humming. Make sure that it has a short, recognizable pattern that is repeated. Be prepared to share your birdsong tomorrow with your beak.



STUDENTS DO: Create an original birdsong using common classroom instruments and voices.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we identified parts of music by listening to birdsongs and created a new design for a bird beak. Did your bird beak pick up the food you thought it would? Share how well your beak tested with a **Shoulder Partner** who was not your working partner.



STUDENTS DO: Share ideas with a new partner.

Lesson 10

Overview

LEARNING OUTCOMES	MATERIALS	PREPARATION
Students will: <ul style="list-style-type: none">Offer and seek feedback.Test and revise or improve designs.Perform and observe original birdsongs.	<ul style="list-style-type: none">Beak designsStudent booksPencils	Copy the class pledge on paper large enough to post in the room and be seen by all students. Leave room on the paper for students to sign it.
LIFE SKILLS		
Learn to Live Together		Learn to Be
Respect for Diversity: <ul style="list-style-type: none">Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.		Accountability: <ul style="list-style-type: none">Provide effective feedback.
Empathy: <ul style="list-style-type: none">Demonstrate empathy in communicating with others.		



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we used birdsongs to identify parts of music and created our own birdsongs. We also brainstormed, planned, built, and tested a new bird beak. Here is a question for you. Would your bird beak work in a muddy, wetland environment? Why or why not?

TEACHER DO: Use **Calling Sticks** to select several students to respond.

 **STUDENTS DO:** Share ideas with the class.

TEACHER DO: Hand out student books.

2. TEACHER SAY: Today we are going to work on improving our beak designs, and then we will test the new design. Open your student books to the page Improve and Test Again.

 **READ ALOUD:** Pair up with another pair of students and share your beak design and results from previous testing. Ask for and give feedback.

TEACHER SAY: Please remember to be kind as you offer feedback to your peers. Help your classmates solve a problem about their design by offering suggestions. Thank the classmates who give you feedback. Do not argue. This is a time to get different perspectives and deepen your understanding.

 **STUDENTS DO:** Pair up with another pair of students to offer and seek feedback. (This is an opportunity for students to practice the Life Skills: Respect for Diversity, Empathy, and Accountability.)

 **Empathy**

 **Respect for Diversity**

 **Accountability**

3. TEACHER SAY: Using the feedback you received, improve your design and then test it again. This time, test it in the same way we investigated the original beak designs. Record your results in the table provided.



STUDENTS DO: Improve bird beak design, test, and record results.

TEACHER DO: Circulate as students work, helping them to stay focused and solve problems. Prompt students to describe the changes they are making and why. Ask students to finish testing and clean their work areas with at least 15 minutes left in the class window.

4. TEACHER SAY: You worked very hard today. I visited many of you as you worked, and I am eager to hear more about your designs. What are some changes you made to your beaks and why?

TEACHER DO: Use **Calling Sticks** to select several students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Did the improvement you made help your beak be more successful? If so, then your bird has adapted and will pass that new trait on to its offspring. Let's do a **Gallery Walk** to see everyone's designs and listen to their birdsongs.

TEACHER DO: Divide the class in half. Half of students will stay with their bird beaks to explain the design and results and to perform their birdsongs. Students may carefully try each beak design. The other half of the class will walk around to view the other designs and listen to the songs. Students will then switch places and repeat.

5. TEACHER SAY: Well done. I really enjoyed seeing your creativity both in your bird beaks and your birdsongs. Please complete the page **My Self-Assessment**.



STUDENTS DO: Complete self-assessment.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We have explored the origins of different traits in humans, plants, and animals. We have looked at the effects of the environment on living organisms' patterns of change. Let's think far into the future. What change in the environment might make your beak design less effective? Share with a **Shoulder Partner**.



STUDENTS DO: Share with **Shoulder Partner**.

Rubric Assessment (for teacher use)

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Describes the kind of beak that is best suited to a given food source with support from peers or the teacher. <i>Science C.2.c.</i>	Describes the kind of beak that is best suited to a given food source. <i>Science C.2.c.</i>	Describes the kind of beak that is best suited to a given food source. Provides detailed evidence and/or multiple examples. <i>Science C.2.c.</i>
	Collects incomplete or inaccurate data about the effectiveness of the beak design and makes adjustments with support from peers or the teacher. <i>Science A.1.c., d.</i>	Collects accurate data about the effectiveness of the beak design. <i>Science A.1.c., d.</i>	Collects accurate data about the effectiveness of the beak design. Can articulate the relationships between the data collected and both design and improvements. <i>Science A.1.c., d.</i>
	Makes adjustments to the beak using data and classmate feedback with help from peers or the teacher. <i>Science F.1.c.</i>	Makes adjustments to the beak using data and classmate feedback. <i>Science F.1.c.</i>	Makes thoughtful adjustments to the beak using multiple data sets and classmate feedback. <i>Science F.1.c.</i>
	Creates music that includes varied pitch and rhythm with support from peers or the teacher. <i>Music A.1.</i>	Creates music that includes varied pitch and rhythm. <i>Music A.1.</i>	Creates and can explain or describe a piece of music that includes varied pitch and rhythm. <i>Music A.1.</i>
Quality of Performance	Shows creativity when creating a birdsong with support from peers or the teacher.	Shows creativity when creating a birdsong.	Shows exceptional creativity when creating a unique birdsong.
	Answers questions about the beak model or birdsong with support from peers or the teacher.	Answers questions about the beak model or birdsong.	Answers questions about the beak model or birdsong with evidence and detail. Serves as a role model for peers in this area.
Life Skills	Applies learning about adaptive traits to create a model of a beak with help from peers or the teacher. <i>Critical Thinking</i>	Applies learning about adaptive traits to create an appropriate model of a beak. <i>Critical Thinking</i>	Applies learning about adaptive traits to create a model of a beak in response to data collected through testing. <i>Critical Thinking</i>
	Gives feedback that shows little empathy and/or is not very kind. <i>Empathy</i>	Shows kindness and empathy when giving feedback. <i>Empathy</i>	Shows exceptional kindness and empathy when giving feedback. <i>Empathy</i>

PRIMARY 3

Multidisciplinary

HOW THE WORLD WORKS

ORIGINS

**Chapter 2: A New Look
to Ancient Art**

Chapter Overview

A New Look to Ancient Art

COMPONENT	DESCRIPTION	LESSONS
 Discover	Students discover examples of art both in the world around them and from Ancient Egypt. Students describe how color is used and developed in artwork. Students explore the use of geometric shapes in art.	3
 Learn	Students learn how art can be seen in clothing and how block printing can be used in the creation of geometric patterns. Students explain how technology has impacted the creation of art over time. Students research past and present artists and musicians. Students learn techniques for creating sculptures in both ancient and modern-day examples.	4
 Share	Students collaborate to interpret a painting from Ancient Egypt as a play. Students write dialogue and create props and scenery, applying artistic strategies.	3

Connection to Issues



Globalization: Technology helps us communicate and exchange ideas around the world. We can learn from people around the world and also share our ideas and culture with others.

Non-Discrimination: We are all alike, and yet we have differences. We can appreciate and talk about how we are the same and different. We can work together and be cooperative and collaborative.



Life Skills Addressed

DIMENSION	DESCRIPTION
Learn to Know	<p>Critical Thinking:</p> <ul style="list-style-type: none"> Identify subject/topic related information.
Learn to Work	<p>Collaboration:</p> <ul style="list-style-type: none"> Respect for other opinions. <p>Decision-Making:</p> <ul style="list-style-type: none"> Identify results and expected results. <p>Productivity:</p> <ul style="list-style-type: none"> Create a list of tasks to be accomplished, including setting alternative plans.
Learn to Live Together	<p>Respect for Diversity:</p> <ul style="list-style-type: none"> Solicit and respect multiple and diverse perspectives to broaden and deepen understanding. <p>Empathy:</p> <ul style="list-style-type: none"> Demonstrate empathy in communicating with others.
Learn to Be	<p>Self-Management:</p> <ul style="list-style-type: none"> Review progress in realizing goals. <p>Accountability:</p> <ul style="list-style-type: none"> Provide effective feedback. <p>Communication:</p> <ul style="list-style-type: none"> Reading, writing, non-verbal communication skills. <p>Endurance:</p> <ul style="list-style-type: none"> Demonstrate deliberation and anger management. Evaluate and analyze stressful (tense) situations.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

D. Reading Skills: Fluency

- 1.a. Read texts at grade-appropriate difficulty with a level of accuracy and fluency to support understanding.
- 1.b. Read to express the meaning and style of a text, (interrogative, exclamation, or imperative).
- 1.c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

E. Reading Comprehension: Literature

- 1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- 1.b. Describe and compare characters in a story (such as their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.
- 3.a. Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.
- 4.a. Answer questions about the logical connection between particular sentences and paragraphs in a text (such as comparison, cause/effect, or sequence).

F. Reading Comprehension: Informational text

- 8.a. Read and comprehend informational text at appropriate difficulty level for Primary 3.

G. Language: Vocabulary Acquisition and Use

- 1.e. Choose words and phrases for an intended effect or tone.
- 1.g. Demonstrate command of the conventions of grammar and usage when writing or speaking.

WRITING:

A. Foundational Skills

- 1.a. Write complete sentences using punctuation, prepositions, and coordinating conjunctions (such as ف, و, ثم) as appropriate.

B. Narrative

- 1.a. Write narratives to express real or imagined experiences or events, using descriptive details and clear event sequences.
- 1.c. Use dialogue and descriptions of actions, thoughts, and feelings to express experiences and events or show the response of characters to situations.
- 1.d. Organize an event sequence that unfolds naturally, using temporal words and phrases to signal event order.

D. Process, Production, and Research

- 1.a. Use graphic organizers to plan writing.
- 2.a. Use a variety of digital tools to produce and publish writing, independently and in collaboration with peers.
- 2.b. Participate in collaborative research.
- 3.a. Research a specific topic or question using a variety of resources.

SPEAKING AND LISTENING:

A. Foundational Skills

- 1.a. Engage effectively in a range of collaborative discussions with peers and adults in small and larger groups.
- 1.e. Listen to speakers in order to make connections; comprehend; and gain, clarify, or deepen understanding of a topic or issue.
- 1.f. Build on others' ideas in discussion and express own ideas clearly.
- 4.a. Speak clearly and at an understandable pace with appropriate tone, gestures, and body language.
- 5.a. Speak in complete sentences, following grammatical rules, in order to provide requested detail or clarification.

MATH:

B. Operations and Algebraic Thinking

- 1.c. Multiply and divide within 100.
- 1.d. Use strategies to solve multiplication and division problems, including:
 - 1) Manipulatives
 - 2) Drawings
 - 3) Arrays
 - 4) The relationship between multiplication and division

C. Numbers and Operations in Base Ten

- 3.a. Describe a proper fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts.
- 3.b. Read and write proper fractions.

D. Measurement and Data

- 5.e. Relate area to the operations of multiplication and repeated addition:
 - 2) Find the area of a rectangle with whole-number side lengths using concrete models.
- 5.f. Solve real-world and mathematical problems involving perimeters of polygons, including:
 - 1) Finding the perimeter given the side lengths.
 - 2) Drawing rectangles on a grid with the same perimeter and different areas or with the same area and different perimeters.

SCIENCE:

A. Skills and Processes

- 1.f. Listen actively to arguments and indicate agreement or disagreement based on evidence.
- 1.g. Communicate information with others in oral and written forms.

F. Engineering Design and Process

- 1.b. Explain the role of society in the development and use of technology, with support.

SOCIAL STUDIES:

B. Historical Thinking and Knowledge

- 1.d. Explain the structure and purpose of a timeline to document chronology.

- 1.e.** Trace the chronology of a historical event using a timeline.
- 1.g.** Explain the benefit of using multiple sources to study history.
- 2.a.** Distinguish between events in the recent and distant past (for example, by using a timeline).
- 2.b.** Demonstrate how two or more current or historical events are connected (such as through common themes, persons, circumstances).
- 2.d.** Compare past and present situations, people, or events in the local community.

MUSIC:

D. Singing

- 1.** Create original lyrics to pair with a known melody.
- 2.** Perform with appropriate confidence in front of others.
- 3.** Participate in collective singing.

E. Demonstrating Appropriate Behaviors in Music

- 1.** Identify a local musician and his/her music (such as Sayed Darweesh, Mohamed Abdelwahab, Zakaria Ahmed).

VISUAL ART:

A. Producing Visual Art

- 1.a.** Create a gradient of color (such as from dark to light).
- 1.b.** Explain the role of white and black in creating gradients of color.
- 1.c.** Identify geometric shapes in the classroom and other familiar locations.
- 2.d.** Investigate how adhesives work on different materials to create a sculpture.
- 3.a.** Create an original work of art that incorporates geometric shapes.
- 3.c.** Create sculptures to imitate objects found in nature as well as freeform objects from the imagination.
- 3.d.** Create works of art using fingerprinting and block printing; compare the two methods.

DRAMA:

B. Plays

- 2.** Apply the elements of dramatic structure to a story told in a skit or play.
- 3.** Collaborate to create dialogue that reveals the plot of a play.
- 4.** Describe the scenery appropriate for an existing or original scene between characters.

C. Acting

- 1.** Explain the role of focus, imagination, and creativity in the performance of different characters.
- 2.** Collaborate to determine how characters might move and speak to support a role or plot line.

ECONOMICS AND APPLIED SCIENCES:

E. Dress Sense and Handcrafts

- 1.a.** Distinguish between the origins and use of raw materials in the garment industry (such as cotton, wool, raw silk).
- 1.b.** Compare and contrast patterns of clothing in different regions and climates of the world.

INFORMATION AND COMMUNICATION TECHNOLOGIES:

B. Security and Safe Use

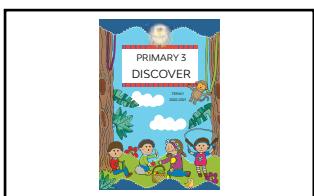
- 1.b.** Identify copyrighted materials (such as text, images, music, and video) used in products and give credit to media creators.

Pacing Guide

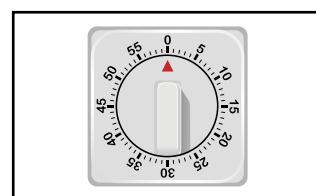
LESSON	INSTRUCTIONAL FOCUS
1	<p>DISCOVER: Students will:</p> <ul style="list-style-type: none"> • Compare character actions and feelings in a story. • Identify examples of art in the contemporary world.
2	<p>DISCOVER: Students will:</p> <ul style="list-style-type: none"> • Observe examples of art in Ancient Egypt. • Sequence artwork in order from oldest to most recent. • Apply multiplication and fractions to analyze parts of a painting.
3	<p>DISCOVER: Students will:</p> <ul style="list-style-type: none"> • Explore gradients of color (such as from dark to light). • Explain the role of white and black in creating gradients of color. • Use geometric shapes in original artwork.
4	<p>LEARN: Students will:</p> <ul style="list-style-type: none"> • Identify various natural, raw materials used in making clothing. • Compare clothing worn in different regions and climates of the world. • Explore fingerprinting and block printing. • Describe how technology has impacted art.
5	<p>LEARN: Students will:</p> <ul style="list-style-type: none"> • Research and present biographical information on Egyptian musicians and artists. • Compose own lyrics to a modern Egyptian musician song to summarize new learning.
6	<p>LEARN: Students will:</p> <ul style="list-style-type: none"> • Compare and contrast sculptures from Ancient Egypt and modern day. • Develop a plan to create an original sculpture.
7	<p>LEARN: Students will:</p> <ul style="list-style-type: none"> • Create an original sculpture. • Give compliments to peers' artwork.
8	<p>SHARE: Students will:</p> <ul style="list-style-type: none"> • Analyze ancient paintings to interpret subjects and events. • Create dialogue to reveal the plot of the story depicted in art.
9	<p>SHARE: Students will:</p> <ul style="list-style-type: none"> • Collaborate to create appropriate scenery and props for the play. • Collaborate to determine how to use body language to help tell the story.
10	<p>SHARE: Students will:</p> <ul style="list-style-type: none"> • Perform a play using appropriate body language and creativity. • Provide feedback on others' performances.

Materials Used

Student book



Pencils



Lesson 1

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Compare character actions and feelings in a story.• Identify examples of art in the contemporary world.	<ul style="list-style-type: none">• Origin	<ul style="list-style-type: none">• Student books• Pencils• Images from the local neighborhood
<p>PREPARATION</p> <p>Take pictures of art from around your local neighborhood. Ideas include: sculptures, paintings, architectural details, patterned fabric/tapestry, jewelry, photographs. Prepare Webs like the one on the student book page Art Web on large paper for groups of four to six students.</p>	<p>LIFE SKILLS</p> <p>Learn to Live Together</p>	<p>Respect for Diversity:</p> <ul style="list-style-type: none">• Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: We are starting a chapter called, "A New Look to Ancient Art." We will explore different types of art, from sculptures to jewelry to music to drama. We will think about art in our world, and also learn about the origin of art in Egypt many thousands of years ago. I just used the word "origin" to describe part of our learning. We defined origin in our last chapter. Who remembers what origin means?

TEACHER DO: Hand out student books. Call on a student volunteer. If necessary, have students refer back to the vocabulary page from the previous chapter.

 **STUDENTS DO:** Define the word "origin."

TEACHER SAY: Origin is an important word. Thank you for recalling the definition. In this chapter, we will learn about the origins for many different types of art. Let's begin by thinking about what we already know or what we think about when we hear the word ART. Turn to the page Art Web in your book. You may write words or draw images that connect to the word ART. Work independently to start, then we will share our ideas to see if others think differently about art.

Note to Teacher: If students have trouble making connections, prompt them to consider different types of art, experiences they have had with art, or materials used to create art as a starting point for completing the Web.

 **STUDENTS DO:** Complete the Web independently.



Respect for Diversity

TEACHER DO: When the majority of students have four or five ideas written down, arrange students together into groups of four to six. Give each group a **Web** on large paper that mimics what is in the student book.

TEACHER SAY: Let's combine our ideas. When we listen to others, we can learn new ideas. We can find out what we know as a whole class, collectively. We will use the strategy **Pass the Pen** to collaborate to complete the large **Web**. Each group will have one marker. One person will add an idea or word to the large **Web**. Then that student will pass the pen to the next person in the group. If you get the marker and you do not have an idea or word that is not on the **Web**, you may pass to the next person.

STUDENTS DO: Collaborate to complete the group **Web**.

TEACHER DO: Hang **Webs** around the room, then facilitate a **Gallery Walk** so students have an opportunity to read what others wrote. When students finish observing others' work, prompt them to write one new idea they learned from others in the space provided beneath the **Web** in the student book. This is an opportunity for students to practice the Life Skill: Respect for Diversity.

STUDENTS DO: Take a **Gallery Walk** to review what other groups know about art. Add one new idea from the class to **Web** in student book.

2. TEACHER DO: Be prepared to reference ideas students recorded on the class **Webs**. If necessary, write down ideas during the **Gallery Walk** in preparation. During the discussion below, display the pictures prepared prior to the lesson. If students did not reference any local art examples, use the images to help guide the discussion.

TEACHER SAY: Thank you so much for sharing what you know about art. I noticed that some students wrote about [name types of art that can be seen locally]. Art is all around us every day. Art can hang in your homes like [reference an example]. Art can be created using [reference an example such as cameras, paint, clay]. Let's look at a few examples.

TEACHER DO: Display examples of art from the local community and connect these works of art to ideas referenced in student **Webs**. Facilitate conversation that prompts students to consider the various forms of art that exist in modern times.

TEACHER SAY: Our characters, Rashad and Zeina, are going to visit the Alexandria National Museum. This museum has many different artifacts important to Egypt, including a variety of art forms. We are going to read a story about their trip. As we read, listen for how each character feels about the art they are seeing and how those feelings contribute to choices they make in the story. Turn to the page **Alexandria National Museum**.



READ ALOUD: Follow along as your teacher reads. Underline art forms observed in the story.

TEACHER DO: Read the story aloud to students. As there are multiple exchanges of dialogue between characters, pause to make sure students know which character is speaking, responding and so on.

STUDENTS DO: Underline examples of art forms observed in the story (pottery, portraits, sculptures, jewelry).

TEACHER SAY: Thank you for following along. Let's share what we underlined as examples of art forms.

STUDENTS DO: Share aloud art forms described in the story.

TEACHER DO: Facilitate a conversation to establish personal connections to the story and highlight themes using questions such as the following:

- Has anyone ever heard of or been to the Alexandria National Museum?
- What are two ways Rashad and Zeina discuss for how to learn about history?
- Which ways of learning does each prefer?
- Is one character correct? Are books or artifacts better for learning about history? Why do you think this?

TEACHER SAY: Did you notice that in the story, each form of art evoked different feelings from our characters? Let's think about how Rashad and Zeina reacted to these art forms. Their feelings influenced their different reactions to the art in the museum. Let's organize our thoughts about what was happening in the story, then we can have a discussion about the characters. Turn the page to Understanding the Characters.



READ ALOUD: Complete the chart below using the events from the story.

Note to Teacher: Students can either work independently or with a partner to complete the chart.



STUDENTS DO: Complete the chart.

TEACHER DO: Once students have completed the chart, go over each art form together. Ask students: How did a character's feelings impact their actions? Have students connect feelings and motivations to the events/actions in the story, referring back to the text to for supporting evidence.

TEACHER SAY: Now, imagine that you were on the field trip with Zeina and Rashad. How would you have reacted to what they saw? Share your perspective with a **Shoulder Partner**.



STUDENTS DO: Reflect on the experiences in the story with partners.

TEACHER DO: Use **Calling Sticks** to have a few students share perspectives with the class.

TEACHER SAY: I am excited to learn more about art with you in this chapter. For our Share Project, we will collaborate to interpret an ancient painting as a play. We will apply our understanding of different forms of art to bring a painting to life. Understanding our character's motivations and feelings, like we did today, can help us begin to think about our own opinions about art that we observe.

3. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Imagine you are going to visit the Alexandria National Museum. Which art form would you be most interested in observing? Share with a **Shoulder Partner**.



STUDENTS DO: Share ideas with **Shoulder Partner**.

Lesson 2

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Observe examples of art in Ancient Egypt.Sequence artwork in order from oldest to most recent.Apply multiplication and fractions to analyze parts of a painting.	<ul style="list-style-type: none">Area	<ul style="list-style-type: none">Student booksPencilsScissorsRuler (one for each student or pair of students)Glue or tapeCrayonsMeter stick
PREPARATION	<p>LIFE SKILLS</p> <p>Learn to Work</p> <p>Collaboration:</p> <ul style="list-style-type: none">Respect for other opinions. <p>Decision-Making:</p> <ul style="list-style-type: none">Identify results and expected results	



Discover (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our previous lesson, we began to think about artwork from today and long ago in Egypt. We mentioned many different types of art. Let's Popcorn around the room to name some art forms we remember from the last lesson.

TEACHER DO: Call on a student to begin.



STUDENTS DO: Name art forms.

TEACHER SAY: Great job recalling what we discovered in our last lesson. Today we will take a deeper look at the origin of art in Egypt.

2. **TEACHER DO:** Hand out student books. Be prepared to instruct students to cut out pages.

TEACHER SAY: We will begin our day by observing images of art. Turn to the page When Was It Made? The pictures we will observe show some artwork that was made several thousands of years ago and some that are more recent. Let's see if there are clues in the art about when it was made.



READ ALOUD: Cut out the images on this page and the next. Collaborate to estimate when each was created and place them in order from oldest to newest on the timeline provided.

TEACHER SAY: Work with your group to estimate when you think each piece was made. Arrange the pictures in order from oldest to most recent on the page When Was It Made?: Timeline. Once your group has an order you agree on, stand up so that I know you are finished.

TEACHER DO: Divide students into groups of six students. As students work, ask them to explain why they believe one picture is older than the other. Accept any reasonable explanation as long as students are able to support their thinking. If students have difficulty, suggest sorting the images into "old" and "new" piles first. Have students compare the two pieces of jewelry, sculptures, paintings, and pottery and decide which is ancient and which is more modern. Then students can work to sequence from the sort.

 Collaboration Decision-Making

 **STUDENTS DO:** Collaborate to sequence art images. (This is an opportunity for students to practice the Life Skills: Collaboration and Decision-Making.)

TEACHER DO: When groups have finished sequencing, facilitate a **Gallery Walk** so students can observe each other's thinking. Then, allow groups to make any adjustments they want before continuing.

 **STUDENTS DO:** Take a **Gallery Walk** to observe other groups' timelines, then adjust initial ideas.

TEACHER SAY: Wonderful work making your estimates. I heard good discussions about why you put the pictures in a certain order. Now, let's see the actual order from oldest to newest. As you hear me read the actual sequence, rearrange the images on the page, and label each with the date I provide.

TEACHER DO: Go through each image, starting at the oldest. Read brief descriptions of each piece of art. Encourage students to rearrange the pictures as you read them if they had estimated incorrectly, then glue or tape the pictures in place and write the dates you give next to each.

- (C) Great Sphinx of Giza – around 2,500 BCE
- (B) A broad collar – around 1,800 BCE
- (E) Wall painting from King Tut's tomb – 1,323 BCE
- (G) Small geometric bowl – around second century
- (A) Glass beads necklace – around fourth century
- (D) Lion sculpture – 1933
- (H) Colorful pottery – recent, in the past decade or so
- (F) Computer-generated version of a papyrus painting – recent, in the past couple years

TEACHER SAY: What did you notice that surprised you? Were any of your guesses correct? What clues did you use to help you determine the order of the artwork?

TEACHER DO: Use **Calling Sticks** or just call on volunteers to share observations. Support students' ideas by remarking on clues of age, such as the materials used (limestone Sphinx versus the metal lion) and the condition of the artwork (colors have faded in the older pottery and painting).

 **STUDENTS DO:** Share observations.

TEACHER SAY: What do you learn about the origins of art through observing these images?

 **STUDENTS DO:** Share observations.

TEACHER SAY: Thank you for taking time to look at how art has changed over time. Much of the art we do today has origins in ancient times. We will continue to use art examples from Ancient Egypt throughout our chapter. Observing changes in art will help us interpret art in a new way for our Share Project.

3. Note to Teacher: Determine your students' familiarity with Tutankhamun and spend a short amount of time providing background information if necessary

TEACHER SAY: Let's shift focus a bit. I have a thinking question for you: Do you think there are any connections between math and art?

 **STUDENTS DO:** Share ideas, providing reasons for answers.

TEACHER SAY: In fact, there are lots of connections between math and art. We can use math to better understand art. Artists also use math in the process of creation. Let's explore these connections. Turn to the next page in your book, Tutankhamun. The first image on this page is a painting for Tutankhamun's burial chamber. Tutankhamun was king over 3,000 years ago. When he died, he was put into a tomb. His burial chamber, the room where the tomb was laid, is covered in paintings. When you see this image, how big do you think the original artwork was?

TEACHER DO: Use **Calling Sticks** to select students to answer. Encourage students to stand up and estimate with hands or arms how large the painting is.



STUDENTS DO: Estimate the size of the artwork.

TEACHER SAY: On the page, you see spaces for you to record the dimensions of the painting. The original painting is approximately 6 meters long and 4 meters tall. Write those dimensions in the spaces provided. Look at our classroom wall. From (give a starting point) to (give an ending point) is approximately 6 meters, which is the length of the original painting. It is much larger than most of us estimated.



READ ALOUD: Calculate the area of the wall painting. Then, use fractions to describe the sections of the second wall painting.

TEACHER SAY: When we first look at this picture, it does not seem as big as it really is. Artwork can come in all shapes and sizes. We can use math to help us break apart sections of the painting. Let's start by calculating the area of the painting so we can see how big it would look if it were in our classroom. This will help us understand the true size of the painting.

TEACHER DO: With students' help to measure, mark the painting's dimensions either on a classroom wall or the floor to give students a real connection to the measurements.

TEACHER SAY: We have learned about area in mathematics. How can these two measurements be used to calculate the area of the rectangle?

Note to Teacher: Depending on how familiar students are with calculating area, you may choose to have students complete the math work independently, with a partner, or as a whole class.



STUDENTS DO: Volunteer answers for calculating area.

TEACHER SAY: You calculate the area by multiplying the length—6 meters—by the height—4 meters. Choose a strategy for multiplying and write the answer in your book under the image.

TEACHER DO: Call on student volunteers to model a few multiplication strategies used, such as drawings, manipulatives, arrays, and repeated addition.



STUDENTS DO: Calculate the area, then volunteer answers.

TEACHER SAY: Great job. Now let's look at another part of the wall paintings. This wall is smaller. The size is approximately 4 meters by 4 meters. Use another strategy this time to determine the area.



STUDENTS DO: Calculate the area.

Note to Teacher: Encourage students to use a strategy independently for this calculation. If some students had difficulty the first time, pair those students with those who did not have difficulty for more support.

TEACHER SAY: Now when I look at this painting, I notice that it is broken up into equal parts. How many parts can you see?



STUDENTS DO: Identify 12 small parts and 2 larger parts.

TEACHER SAY: We can actually say that the painting is in 16 equal sections.

TEACHER DO: Model how the top two rectangles can be broken in half to make 16 equal sections in the painting. Have students draw a line in their student books to divide the top sections of the painting.

TEACHER SAY: We can use fractions to describe the equal parts. Can anyone tell us what fraction would describe one of the small rectangles compared to the whole painting?



STUDENTS DO: Share ideas.

TEACHER SAY: Each small rectangle is $\frac{1}{16}$ of the entire wall. Look at the larger rectangles on the top again. Is the larger rectangle also $\frac{1}{16}$ of the entire wall? Can you use a fraction to express how much of the wall the larger rectangle takes up?



STUDENTS DO: Use the fraction 2/16 for the larger rectangle.

TEACHER DO: **Model** how you could shade in 2 small rectangles for the larger rectangles.

TEACHER SAY: Great job using fractions to break apart the painting. Art often uses and expresses mathematical concepts. Understanding how to read measurements, calculate area, and break sections apart will help us as we continue observing artwork and creating our own.

4. TEACHER DO: Hand out rulers to students.

TEACHER SAY: Let's experience using math to help us create art. Look at the colorful pottery from our timeline activity. What do you notice about the painted design? Do you see any math concepts represented?



STUDENTS DO: Identify the pattern of shapes as squares or diamonds.

TEACHER SAY: Yes, repeated squares frame the painted pattern. Each square is the same size and the picture within each square is the same. We can use rulers to create a shape pattern. Turn to the page Designing a Pattern.



READ ALOUD: First, divide the rectangle into equal shapes. Then create a design to be repeated within each shape.

TEACHER SAY: Look at the dot grid on the page. What type of shapes do you think you can draw by connecting the dots with lines?



STUDENTS DO: Identify possible shapes (triangles, squares, rectangles, hexagons, trapezoids).

TEACHER SAY: Those are all great ideas for shapes. Let's practice together how we can use our rulers to draw these shapes and make sure they are all equal in size. This means that the perimeter for each shape needs to be the same. Since we are drawing on a grid, we can count the number of dots we use to draw each side of the shape to help us make sure the sides are equal each time.

TEACHER DO: Hang up a large dot grid paper at the front of the room. **Model** first how you would draw two equally sized triangles on the dot grid. Then, invite students to come up to the board to **Model** how they could draw one shape and then have a second student come to the front to draw the same shape. Repeat for each shape named.



STUDENTS DO: **Model** how to draw equally sized shapes on a grid.

TEACHER SAY: Thank you for practicing as a class. With a **Shoulder Partner**, share the shape you will create. Also share how long you will make the sides.



STUDENTS DO: Share shapes and drawing strategies with partners.

TEACHER SAY: Use a dark color crayon to draw each shape. Once you have filled your grid with your shape, draw a picture to repeat in each shape, just like we observed in the pottery.



STUDENTS DO: Draw repeated shapes and illustrate a design.

TEACHER DO: If time allows, students can use rulers to measure the perimeter of the shape they drew in centimeters or millimeters and calculate the area.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we observed examples of art from long ago. We also applied math to help us break apart a painting and create our own repeated shape pattern. Share your artwork with a **Shoulder Partner**. Describe the shape you drew, the size of the shape, and the design you created within each shape.



STUDENTS DO: Share shape art with partners.

Lesson 3

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Explore gradients of color (such as from dark to light).Explain the role of white and black in creating gradients of color.Use geometric shapes in original artwork.	<ul style="list-style-type: none">GradientQuadrilateral	<ul style="list-style-type: none">PencilsStudent booksColored pencils or crayons
	LIFE SKILLS	
	Learn to Be Accountability: <ul style="list-style-type: none">Provide effective feedback.	



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our previous lesson, we talked about art in Ancient Egypt. We used a timeline to show the order of when different art was created. Let's practice creating a timeline, but I have a special challenge for you. Your challenge is to line up, in your rows, in order of your birthdays from January to December. This will be a human timeline, showing the order of our birthdays throughout the year. The trick is, you may not speak to each other as you work. You must be silent.

STUDENTS DO: Line up in order of their birthdays from January to December without talking.

TEACHER DO: Encourage students to use nonverbal communication.

TEACHER SAY: Very good. We have created human timelines. Timelines help us understand when things take place by showing order. As we think about the origins of art in Egypt, a timeline can help us think about how things change over time. If we looked at a timeline of the artwork you have made over your years in school, how has your artwork changed over time?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.

STUDENTS DO: Share ideas with the class.

TEACHER SAY: When you first picked up a crayon, your pictures might have been just lines and squiggles. Maybe you only used one or two colors. As you learned to hold a crayon better, you may have started drawing shapes, such as circles and squares. Now, many of you can draw images of real things, like people or animals. When we look at artwork, we often notice the colors. Why do you think color is important in art?

TEACHER DO: Use **Calling Sticks** to select a few students to respond. Continue the conversation to support students in exploring color in art with more questions, such as:

- Why do artists use certain colors?
- Do some colors make you happy? Sad?

STUDENTS DO: Share ideas with the class.

TEACHER SAY: What is your favorite color? Why? Share with a **Shoulder Partner**.



STUDENTS DO: Share favorite colors with classmates.

TEACHER SAY: My favorite color is _____. I like to use that color in my home and in clothing (and jewelry) I wear. When we look at the artwork of Ancient Egypt, we can get an idea of what colors they used frequently and how they used color.

TEACHER DO: Hand out student books.

2. TEACHER SAY: Open your student books to the page Egyptian Jewelry. Read the directions with a **Shoulder Partner**, then work on your own to complete the page.



STUDENTS DO: Write the common colors represented in the pictures.

TEACHER SAY: Next, look at the example of a painting on papyrus. Do you see any of the same colors? Where?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Colors were important to Ancient Egyptians. They used six main colors: red (desher), green (wadj), blue (khesbedj and irtiu), yellow (kenit and khenet), black (khem), and white (shesep and hedj). Ancient Egyptians did not have stores where they could buy tubes of paint like we can today. Where do you think the colors came from for paintings?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Among the artifacts found in Tutankhamen's tomb was a small paint box. The paint box contained ground up powders of different rocks including orpiment, red ochre, and malachite. The origins of the paint colors were from natural occurring minerals from the earth. Artists would grind the minerals into a fine dust and then mix them with a kind of glue. Let's learn a little more about color.

Color is a way that we describe an object based on how it reflects or gives off light. We can see different colors because of special parts in our eyes. Our eyes can distinguish between hundreds of differences in color. Look closely at the dress in the papyrus picture. What do you notice?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER DO: Facilitate an extended conversation, prompting students to consider the details of the dress. Ask questions such as:

- What color is the dress?
- Is the bottom of the dress all the same color?
- If I said the dress is blue, I would be correct. But how can you describe the difference between the front and back of the dress?



STUDENTS DO: Share answers.

3. TEACHER SAY: Yes, the dress is blue but the color changes from dark blue to light blue. We call this a GRADIENT. A gradient is the gradual blending from one color to another or from dark to light of the same color. Let's try creating a gradient of grey with our pencils. We can gradually blend black to grey to white. Open your student books to the page It Is Black and White. Look carefully at the image of the cone. Does it look realistic? How do you think the artist made this shape look so real? Describe what you see.

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.



READ ALOUD: Practice creating gradients in the right-hand column.

TEACHER SAY: Let's practice creating a gradient on the cone to the right. Using your pencil, how could you make one part look darker? Lighter?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Correct. You can press harder to make it look darker. If you press lightly, the color will be lighter. You can also use the side of your pencil to create different shades. Blending, or shading something you draw, can make it look more real. Try to make your cone look real.



STUDENTS DO: Shade cone using pencils.

TEACHER DO: Circulate around the room as students work, offering assistance as needed.

TEACHER SAY: Well done. Please share and discuss your work with your **Shoulder Partner**.



STUDENTS DO: Share artwork with partners. (This is an opportunity to practice the Life Skill: Accountability.)

TEACHER SAY: Shading to make something look real takes a lot of practice. Let's try it with some colors now. Look at the example of a color gradient. Remember to use different amounts of pressure to create darker and lighter colors. Choose your favorite color. Create a color gradient in the box below the one you created using your pencil.



STUDENTS DO: Use color to create a gradient.

TEACHER DO: Circulate around the room as students work, offering assistance as needed.

TEACHER SAY: Well done. Please share and discuss your work with your **Shoulder Partner**.



STUDENTS DO: Share artwork with partners. (This is an opportunity to practice the Life Skill: Accountability.)

TEACHER SAY: As we look at different examples of art in this chapter, look for color gradients and notice how they make objects look more real.

Note to Teacher: If computers are available, provide students an opportunity to explore color gradients in different computer programs.

4. TEACHER SAY: Another thing we can notice about the art of Ancient Egypt is the use of geometric patterns. We found one geometric pattern in pottery. Patterns can also be seen in jewelry. Turn back to the page Egyptian Jewelry. What geometric shapes do you see?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Very good. We can see examples of quadrilaterals, or figures with four sides. Specifically, we can see rhombuses and rectangles. Let's practice identifying these shapes so we can use them to create an original design. Open your student books to the page Geometric Shapes. Let's review what we know about geometric shapes. Before we begin, do you notice anything that is similar about all three shapes shown?



STUDENTS DO: Share ideas. Students should note that all three shapes have four sides and are therefore quadrilaterals.



READ ALOUD: Label the shapes. Design an original pattern for a bracelet or cuff using geometric shapes.



STUDENTS DO: Label geometric shapes correctly.

TEACHER DO: If students are not yet ready to write the shape names on their own, write all three words on the board as a word bank (rhombus, rectangle, square) not in the order of the shapes on the page.

TEACHER SAY: These different quadrilaterals have specific names that help us tell them apart. Let's use what we know about Ancient Egyptian art, colors, shapes, and gradients to design a cuff or bracelet. Use the bottom of the page to design an original bracelet or cuff using one or multiple patterns of quadrilaterals. Use each of the shapes in your design.

Note to Teacher: Students can cut out the cuffs and wear them or save them as part of the costume for the Share Project play.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we talked about color and shapes. We looked at examples of how color and shapes were used in art from Ancient Egypt. Where can we see examples of color gradients in our world today? For example, are there any signs or labels you have noticed with a color gradient? [Examples might include signs in the community, icons on phones, and so on.] Discuss with your **Shoulder Partner**.



STUDENTS DO: Share with **Shoulder Partner**.

Lesson 4

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Identify various natural, raw materials used in making clothing.Compare clothing worn in different regions and climates of the world.Explore fingerprinting and block printing.Describe how technology has impacted art.	<ul style="list-style-type: none">Raw materials	<ul style="list-style-type: none">Crayons or colored pencilsChart paperMarkersPencilsStudent booksArt supplies (per group):<ul style="list-style-type: none">Water-based paint (various colors in small cups)Paint roller and paint-brush (or sponge)Foam plate (or vegetables such as carrots, potatoes, apples)Clean up supplies (water, paper towels, or wet-wipe cloths)
<p>PREPARATION</p> <p>Prepare a large chart paper with an outline of a row of a geometric pattern, such as a row of five triangles. Create a work station for using paint supplies, including the materials listed above.</p>	<p>LIFE SKILLS</p> <p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">Identify subject/topic-related information.	



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we explored the origins of color and geometric shapes in the art of Ancient Egypt. What are some geometric shapes you can name? Tell your **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.

STUDENTS DO: Share responses with the class.

2. TEACHER SAY: Geometric shapes are all around us. We see geometric shapes in our buildings, our art, and even our clothing and jewelry. What geometric shapes can you see in our classroom?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.

STUDENTS DO: Share ideas with the class.

TEACHER DO: Hand out student books.

TEACHER SAY: In previous lessons we have identified geometric patterns in pottery and jewelry designs. Can you think of other types of art that use geometric shapes?

STUDENTS DO: Provide examples (architecture, some paintings, sculptures, and so on).

TEACHER DO: If a student recognizes clothing as a form of art that sometimes incorporates

geometric shapes, build off of that answer by asking follow up questions for examples and types of patterns.

TEACHER SAY: Let's look at some examples of geometric patterns used as art on clothing.
Open your student books to the page Geo Clothes.



READ ALOUD: Write the names of geometric shapes you see.



STUDENTS DO: Name geometric figures they see in pictures.

TEACHER SAY: What else do you notice about the clothing? What is similar or different between the pictures?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Which pictures look like the way we dress in our area?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Some pictures do not look at all like the way we dress. What is different? What can you tell about where the people live from their clothes?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Very good. We have learned about climates and how people adapt to them earlier in the year. From these pictures, we can tell who might live in a cold climate and who might live in a warm climate. We can also see that similar patterns are used all over the world. In this chapter, we have been learning about how art is made, and we have talked some about materials. Do the clothes in these pictures look like they are all made from the same materials?



STUDENTS DO: Share ideas.

TEACHER SAY: In Primary 1, we learned how clothing is made by studying the life cycle of a T-shirt. What do you remember about the process of how a T-shirt is made? Share your ideas with a **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.

Critical Thinking



STUDENTS DO: Share responses with the class. (This is an opportunity to practice the Life Skill: Critical Thinking.)

TEACHER SAY: Very good. You remembered that the first step in making a shirt is to harvest cotton. In order for the harvested cotton to become fabric, a machine separates the seeds from the cotton plant and another machine spins the cotton into thread. A third machine weaves the cotton thread into fabric. Do you think all of these pieces of clothing are made from cotton? Why or why not?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: When you consider the climate and regions for each type of clothing, think about the raw—or basic—materials needed to create them. Colder climates and regions might have heavy wool sweaters to keep people warm. The wool for their sweaters comes from sheep. Have you ever touched a sheep? What did it feel like?

TEACHER DO: Select a few students with hands raised to respond.

 **STUDENTS DO:** Share experiences with the class.

TEACHER SAY: The beautiful silk scarves and dresses are made with silk from a silkworm. The silkworm eats mulberry leaves native to northern China. The silkworm spins a cocoon of fine, strong fiber that is the origin of commercial silk. Raise your hand if you have ever seen a cocoon of a butterfly or a moth. What was it like?

TEACHER DO: Select a few students with hands raised to respond.

 **STUDENTS DO:** Share experiences with the class.

TEACHER SAY: Here in Egypt, we grow the finest cotton. The climate in Egypt allows the cotton fibers to grow extra-long. Raise your hand if you have seen a cotton field.

 **STUDENTS DO:** Raise hands if they have seen a cotton field.

3. TEACHER SAY: Turn to the page Raw Materials. Let's capture what we know about where the fabric for different types of clothes comes from.



READ ALOUD: Label the raw materials, then match each to its finished product.



STUDENTS DO: Draw a line to match raw materials with finished products.

TEACHER DO: Circulate around the room as students work to assess learning.

4. TEACHER SAY: Well done. Clothing is made from materials such as wool, silk, and cotton. Patterns can be woven into the cloth by using strands of different colors or by applying paint or dye to the materials. Raise your hand if you have seen someone weaving. What did you notice?

TEACHER DO: Select a few students with hands raised to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Remember when we looked at the art on the walls of the burial chamber of Tutankhamun? Looking at the art of Ancient Egypt, we can see that some of the earliest art was created using fingers painting on walls, and some may have been done using something we call block printing. Block printing is done by carving a design in a hard substance like wood, rubbing paint on it, and pressing it to another surface. It is easy to repeat a pattern using this method.

5. TEACHER SAY: Let's explore some ways we can make art. It is time to become a fashion designer. Open your student books to the page Fashion Fun.



READ ALOUD: Use finger printing to create a pattern on the shirt outline. Then use block printing to create the same pattern on the next shirt outline.



TEACHER DO: Provide supplies, such as tempera paint, paint roller or sponge, clean-up items, and materials for block printing.

Note to Teacher: Students can cut off the rim of a foam plate (or the base of a foam cup) and carve/draw on it with a dull pencil, stick, or ballpoint pen. Make sure the lines students draw are pressed deep into the foam for best results. Next, spread some tempera paint, thinned just a bit with some water, over the surface of the foam using a paintbrush or roller. Then, carefully flip the foam plate over (paint side down) and press down over the whole surface of the foam plate with the back of a spoon or a roller. Then, lift up the foam plate. Alternatively, students can use food items, such as potatoes, carrots, or apples, to carve a design.

TEACHER SAY: Create a simple geometric design on the first shirt outline. You may draw your design with a pencil first.



STUDENTS DO: Draw a simple geometric design on the first shirt outline.

TEACHER SAY: Share the cups of paint and use your fingers to add color to your designs.



STUDENTS DO: Use paint and fingers to add color to designs.

TEACHER SAY: Please clean your fingers before we move on to the next part.



STUDENTS DO: Clean fingers using available supplies.

TEACHER DO: Circulate around the room and observe students.

TEACHER SAY: Wonderful. Ancient Egyptians found ways to use different minerals to create colors. Fingers were the easiest way to apply paint to a wall in order to communicate their ideas.

Now let's try block printing. Carve your same design into the materials provided. Apply paint and press it onto the second outline of a shirt in your student book. Watch me first.

TEACHER DO: Demonstrate the process of block printing. Describe each step as you do it.

TEACHER SAY: Now it is your turn. Create your block print design.



STUDENTS DO: Create block print designs to paint onto second shirt outlines.

TEACHER DO: Circulate around the room, observe students, and offer assistance as needed. Remind students to press hard to carve out their designs.

TEACHER SAY: Well done. Please clean up your area and return materials.



STUDENTS DO: Clean up and return materials.

TEACHER SAY: Look carefully at both shirts. Which shirt has a more precise design? Which was the fastest way to complete the shirt?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

Note to Teacher: If available, ask students to create the same design using an appropriate computer program and compare to the two designs in their student books.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we talked about the origins of clothing and how we still use patterns and geometric shapes that were once used in Ancient Egypt. What are some ways you think technology has changed how clothing is designed and created today?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: You have great ideas. Computers can be used to create patterns and designs, and the machines that make clothing today are much faster and more capable of intricate designs than they were a century ago. Technology has also given us fabrics made from materials that are not natural, like cotton or wool.

Lesson 5

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Research and present biographical information on Egyptian musicians and artists.• Compose own lyrics to a modern Egyptian musician song to summarize new learning.	<ul style="list-style-type: none">• Digestion• Nutrients• Stomach	<ul style="list-style-type: none">• Art books of famous Egyptian artists• Books, news articles, online articles about Egyptian musicians and artists• Audio recording of the song, “They Taught Us in Our School How to Love Our Country” (or other commonly known melody)• Student books• Pencils
PREPARATION		<p>LIFE SKILLS</p> <p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">• Identify subject/topic-related information.
Invite local musicians and/or artists to share their skills with the class. Collect articles and books about Sayed Darweesh, Mohamed Abdelwahab, Zakaria Ahmed, and at least three well known Egyptian artists, such as Armen Agop, Alaa Awad, and Khaled Hafez.		



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: We talked about the origins of clothing and how we can trace geometric patterns in art back to the Ancient Egyptians. We also began to think about how technology has changed clothing. How do you think technology is changing other forms of art?

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.



STUDENTS DO: Share responses with the class,

TEACHER DO: Hand out student books.

2. **TEACHER SAY:** Today we are going to explore another art form: music. Artwork from Ancient Egypt shows music as an important part of life, especially during the time of the pharaohs. Artwork shows that music was played at religious ceremonies, palaces, farms, and even battlefields. Many paintings show Ancient Egyptians involved in song and dance and playing musical instruments. Open your student books to the page Origins of Egyptian Music.



READ ALOUD: Describe the instruments you see pictured.



STUDENTS DO: Describe the instruments pictured.

TEACHER SAY: How are some of these instruments similar to modern day instruments?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: We can see many similarities to instruments used by musicians today. Let's explore more about the origins of some modern musicians. Who are some famous modern Egyptian musicians and artists you can name?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Excellent. When you listen to music, or see artwork you like, what are some feelings you experience?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

3. TEACHER SAY: Music and art are important in any society, or group of people. Music and art can reflect what we are feeling and what is happening in our lives. Egypt has some famous musicians and artists. Let's learn more about them.

TEACHER DO: Hand out student books.

TEACHER SAY: Please open your student books to the page Musicians and Artists.



READ ALOUD: Research one musician and one artist and record information on the graphic organizer.



STUDENTS DO: Use various resources to research musicians and artists.

Note to Teacher: Resources for each artist and musician can be organized in different areas of the room, so that students may more easily share the resources. If computers are available, allow students to research using bookmarked pages or specific links.

TEACHER DO: As students work, circulate around the room, break up the tasks, and guide students as needed.

TEACHER SAY: Nicely done. Please form a group of four or five students who researched different musicians and artists.



STUDENTS DO: Form small groups with a variety of researched musicians and artists.

Note to Teacher: It is okay if some of the musicians/artists are the same in the group. Students can listen for information that is different from the information they collected. The idea is to have some variety, so that students can look for patterns, similarities, and differences.

4. TEACHER SAY: In your groups, present the musician and artist you researched to the group. The group will listen for patterns, similarities, and differences between the musicians and artists they researched. Record your notes on the page Presentation Reflections.



READ ALOUD: Listen carefully to presentations about different musicians and artists. Record your thoughts below.



STUDENTS DO: Present information on a musician and an artist to the group and listen attentively as other students present. Record information on graphic organizer. (This is an opportunity to practice the Life Skill: Critical Thinking.)



TEACHER DO: Circulate around the room as students present. Remind students to record information in their student books.

TEACHER SAY: I am curious as to what patterns you have discovered. When I call your name, please share your ideas with the class.

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Those are some very good ideas. Earlier, we noticed patterns in jewelry, clothing, and artwork. Patterns are everywhere and they help us understand information.

Note to Teacher: If possible, introduce students to musicians and artists in the local community. This can be done by inviting them to class, recording a video interview with them, using a computer/cell phone to chat online with them, or showing audio/visual examples of their work.

5. TEACHER DO: Play an audio recording of the song, “They Taught Us in Our School How to Love Our Country.”

TEACHER SAY: Listen as I play the song, “They Taught Us in Our School How to Love Our Country.”



STUDENTS DO: Listen to the melody of the song.

TEACHER SAY: In your row groups, collaborate to rewrite the lyrics, or words, of this song to summarize what you learned today about artists and musicians.



STUDENTS DO: Collaborate to write lyrics that summarize their learning.

TEACHER DO: As you circulate around the room, listen for student songs. Select two groups to share songs out loud with the entire class.

Note to Teacher: Students do not need to write lyrics for the entire length of the song. If available, allow students to record rewritten songs on a cell phone or other recording device.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we talked about famous Egyptian musicians and artists. Let’s listen to a few of the songs you have composed that summarize your learning.



STUDENTS DO: Share songs with the class.

Lesson 6

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Compare and contrast sculptures from Ancient Egypt and modern day.• Develop a plan to create an original sculpture.	<ul style="list-style-type: none">• Abstract• Sculpture	<ul style="list-style-type: none">• Materials to create sculptures (see Preparation)• Student books• Pencils
PREPARATION	LIFE SKILLS	
<p>Collect and organize supplies for sculpting, such as clay, salt-dough, wire, natural materials (like sticks), and/or recyclable materials. Prepare a few different types of adhesives that could join various materials, such as glue, water (for clay), clay (for sticks), and so on.</p>	<p>Learn to Be</p> <p>Communication:</p> <ul style="list-style-type: none">• Reading, writing, non-verbal communication skills.	<p>Learn to Work</p> <p>Productivity:</p> <ul style="list-style-type: none">• Create a list of tasks to be accomplished, including setting alternative plans.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our previous lesson, we talked about Egyptian musicians and artists. What was something interesting you learned about a famous musician or artist? Share with a **Shoulder Partner**.



STUDENTS DO: Share with **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.



STUDENTS DO: Share interesting facts about a musician or artist.

TEACHER DO: Hand out student books.

2. TEACHER SAY: We talked about different forms of art in this chapter. Do you remember when Rashad visited the museum? He liked looking at the sculptures. How would you describe a sculpture?

TEACHER DO: Use **Calling Sticks** to select a few students to respond. Extend the discussion to find out what students already know about sculptures, using questions such as those listed below, and adjust the following conversation accordingly.

- Who has seen a sculpture in person? Where? What was the subject?
- Do you know of any famous sculptures?
- What materials are used to make sculptures?
- We have learned previously about statues. How are statues and sculptures related?



STUDENTS DO: Share ideas with the class.

3. TEACHER SAY: Very good. Sculpture is a form of art where materials are worked into three-dimensional shapes to represent something. That means we can see all sides of the object. Sculptures can be large, like the Colossi of Memnon, or small, like a carved beetle. Sculptures

can be made of natural materials, such as wood, stone and clay, or materials such as metal and plastic. Sculptures can even mix different materials. Let's look at a few examples from Ancient Egypt. Open to the page **Sculpture in Ancient Egypt**.



READ ALOUD: Look carefully at the pictures and record your observations.



STUDENTS DO: Observe pictures and record observations.

Note to Teacher: If available, show students video clips of the actual sculptures in order to give students a sense of scale.

TEACHER SAY: What are some observations you made? Share with a **Shoulder Partner**.



STUDENTS DO: Share with a **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.



STUDENTS DO: Share observations with the class.

4. TEACHER SAY: Now let's compare these sculptures to some modern-day sculptures. Open your student books to the page **Modern Day Sculptures**.



READ ALOUD: Look carefully at the pictures and record your observations.



STUDENTS DO: Observe pictures and record observations.

TEACHER SAY: What are some observations you made? Share with a **Shoulder Partner**.



STUDENTS DO: Share with **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.



STUDENTS DO: Share observations with the class.

TEACHER SAY: What are some similarities and some differences between the two different sets of sculptures?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Yes, some similarities are that some on each page show humans and animals. Some differences are the materials used and that some are abstract, or not realistic sculptures. Many sculptures are designed to share a message or story. Does anyone know the story of the Great Sphinx?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: The Great Sphinx one of the largest and oldest statues in the world. The Sphinx is a creature with the body of a lion and the head of a human. Archeologists believe that it was carved around 2,500 BCE and that the head is meant to be the likeness of the Pharaoh Khafra. The Great Sphinx faces the sunrise and guards the pyramid tombs of Giza. Who wants to guess how long or how tall the Great Sphinx is?



STUDENTS DO: Guess dimensions.

TEACHER SAY: The Great Sphinx is huge. It is about 73 meters long and 20 meters high. The eyes on the face are 2 meters tall and the nose would have been nearly 1.5 meters long before it was knocked off. Some people say the Sphinx was built to send a message to stay away from

the pyramids. If you could make a sculpture, what message would it send? Tell your Shoulder Partner.



STUDENTS DO: Share ideas with **Shoulder Partner**.

5. TEACHER SAY: Today we are going to make a sculpture. As we learn about the origins of different art forms in Ancient Egypt, we have also been experiencing how to create different types of art. A sculpture is a bit more complicated than the patterns and designs we have worked on in other lessons. Before we start building a sculpture, we need a plan. Turn to the page Planning My Sculpture.



READ ALOUD: Use the graphic organizer to plan your sculpture.



Productivity

TEACHER DO: Show students the materials they will be able to use to create sculptures. This is an opportunity for students to practice the Life Skill: Productivity.

TEACHER SAY: Using the materials available, you will create an animal sculpture composed of two animals. Think about the characteristics of each animal and write a brief legend, or story, to go with your sculpture.



Communication



STUDENTS DO: Use graphic organizer to plan sculpture and compose a legend. (This is an opportunity to practice the Life Skill: Communication.)

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we talked about sculptures. What type of sculpture do you like best, realistic or abstract? Discuss with your **Shoulder Partner**.



STUDENTS DO: Share with **Shoulder Partner**.

Lesson 7

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Create an original sculpture.• Give compliments to peers' artwork.	<ul style="list-style-type: none">• Adhesive	<ul style="list-style-type: none">• Materials to create sculptures (see Preparation)• Tape, glue, and other adhesives• Scissors• Student books• Pencils
PREPARATION <p>Gather materials for sculptures, such as clay, salt-dough, wire, natural materials (like sticks), and/or recyclable materials, in an easily accessible area. Prepare a few different types of adhesives that could join various materials, such as glue, water (for clay), clay (for sticks), and so on.</p>	<p>LIFE SKILLS</p> <p>Learn to Live Together</p> <p>Empathy:</p> <ul style="list-style-type: none">• Demonstrate empathy in communicating with others. <p>Learn to Be</p> <p>Accountability:</p> <ul style="list-style-type: none">• Provide effective feedback.	



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we talked about and compared sculptures in Ancient Egypt and today. What is an example of a sculpture in our community? Share with your **Shoulder Partner**.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.



STUDENTS DO: Share ideas with the class.

TEACHER SAY: Before we begin building our sculptures today, let's learn about how different materials can be used together. Our materials consist of pieces to build with and **ADHESIVES**. Adhesives help materials stick together. Along with two or three others at your table, take some time to experiment with how well different adhesives work to put two different materials together. Be sure to use very small amounts of both the materials and adhesives so we have enough left over to build.



STUDENTS DO: Experiment with adhesives.

Note to Teacher: If there are not enough materials for every student to create an individual sculpture, walk students through a process of sharing and combining ideas in small groups before building.

TEACHER SAY: Now that you have an idea of what materials and adhesives you would like to use, find your planning page from our previous lesson. Follow your plan to make your sculpture.



STUDENTS DO: Create sculptures.

TEACHER DO: Circulate around the room, offering assistance and encouragement as needed.

2. TEACHER SAY: Before we do a **Gallery Walk**, let's reflect on our sculptures. Please open your student books to the page Art Reflections.



READ ALOUD: Answer the questions to reflect on your sculpture.



STUDENTS DO: Reflect and answer questions.

TEACHER SAY: Well done. Let's set up an art exhibition to share our sculptures and do a **Gallery Walk**. As you observe the other sculptures, you may ask the artist some of the questions from your student book. Remember to complement each other's works of art.

TEACHER DO: Divide the class in half. Have one half of the students remain at their seats to show and answer questions about their sculptures. The other half of the class will walk around the room and visit the other sculptures and ask the artists questions.



STUDENTS DO: Share sculptures and observe and compliment peers' products. (This is an opportunity to practice the Life Skills: Accountability and Empathy.)

3. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we created our own sculptures. We developed new skills. These skills will be important as we begin to work on our Share Project, which is to develop a play based on an ancient painting. To help us prepare for tomorrow, let's look at the page My Self-Assessment to think about what we will be focusing on during the next three days. Start by reading to yourself.



STUDENTS DO: Open to the page and silently read the rubric.

TEACHER DO: After giving students time to read independently, review the self-assessment briefly as a class.

TEACHER SAY: Turn to a **Shoulder Partner** and share what you are most excited about for the project.



STUDENTS DO: Share ideas with **Shoulder Partner**.

Lesson 8

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Analyze ancient paintings to determine subjects and events.Create dialogue to reveal the plot of the story depicted in art.	<ul style="list-style-type: none">Dialogue	<ul style="list-style-type: none">Student booksPencilsMarkers, crayons, or colored pencilsChart paper
PREPARATION		<p>LIFE SKILLS</p>
<p>Divide students into groups of five or six for the Share Project. Two to three groups should interpret the same picture. If you have more than six groups, you will use three different paintings. Prepare five pieces of chart paper for each group. Title the papers: First, Then, Next, So Now, Finally. You may also wish to number these pages in order: First (1), Then (2), Next (3), So Now (4), Finally (5).</p>		<p>Learn to Work</p> <p>Collaboration:</p> <ul style="list-style-type: none">Respect for other opinions.
		<p>Learn to Live Together</p> <p>Respect for Diversity:</p> <ul style="list-style-type: none">Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.
		<p>Learn to Be</p> <p>Self-Management:</p> <ul style="list-style-type: none">Review progress in realizing goals. <p>Endurance:</p> <ul style="list-style-type: none">Demonstrate deliberation and anger management.



Directions

- Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: Throughout the chapter we observed and analyzed many different forms of art: painting, sculpture, clothing, jewelry, and pottery. We also used artwork from long ago to inspire our own works of art. Turn to a **Shoulder Partner** and discuss which piece of art you have created that you are most proud of and why.

STUDENTS DO: Turn and share with **Shoulder Partner**.

TEACHER SAY: Thank you for sharing. We have also been investigating connections between other subjects and art. Who can name an example of how we have connected math and art? Social studies and art? Science and art?

TEACHER DO: After each question, select two or three students to provide examples from previous lessons in the chapter.

STUDENTS DO: Recognize connections between art and other subjects.

TEACHER SAY: For our Share Project in this chapter, we will explore the connections between art, reading and writing, and drama. We will closely study an ancient work of art so that we can tell its story in a new way, as a play. We will apply our understanding of art forms, people, and stories to our work.

Note to Teacher: If time allows, the Share Project can be stretched over four or five days.

TEACHER DO: Move students into assigned groups for the project and hand out student books.

2. TEACHER SAY: We will collaborate in these large groups in order to analyze the paintings and determine, as a group, how to interpret the story of the paintings. We will need to use many of the life skills we learned about in our first theme and have been practicing throughout the year. Who can name a life skill that will be important for us as we work in groups?

TEACHER DO: Provide **Think Time** before using **Calling Sticks** to have a variety of students respond. Life skills named should include: collaboration, communication, and self-management. Students can also name ideas such as goal setting, written communication, and sharing ideas respectfully.

TEACHER SAY: Great job recalling important life skills. Open your books to the page **Working as a Team**. On the page you can see a list of statements. These are goals for your behavior and work ethic. If you are successful in achieving your goals, you will be able to collaborate effectively to complete the project.



READ ALOUD: Read through each statement as a class. Then, think of one more goal you can set to be a good member of your group. Sign your name at the bottom.

TEACHER DO: Read through each statement or invite five students to each read one statement aloud to the class. Stop after each statement and ask for volunteers to explain what the life skill might look like in terms of this group project.

TEACHER SAY: If we are able to achieve these goals, we will be able to successfully complete this project. In your group, decide on one more goal that will help you work successfully. Maybe it will be using kind words and voices when speaking. Maybe a goal can be to pause and take two breaths before speaking if you are upset. Talk to your group first and then record one more goal. Sign your name at the bottom of the page to show you understand how to be a positive member of your group.



Collaboration



STUDENTS DO: Record an additional goal for collaborating in groups. (This is an opportunity to practice the Life Skill: Collaboration.)

3. TEACHER SAY: Now that we know what we can do to be successful, let's start examining the artwork we will turn into a new play. Turn to the page **Ancient Paintings** in your student books. The next three pages show the options your group can use. Take some time now to observe each painting. In your group, discuss the two you would be excited about turning into a play. I will then select one of your two choices for you to use.

Note to Teacher: While the paintings depict scenes from Ancient Egypt, the interpretation of the play can either be historical (set in the past) or modern (set in the present). It is more important for students to be imaginative and creative than to be historically accurate. You may feel that your students do not have enough background in historical events to imagine characters, setting and events from ancient times. Focus students on identifying characters, setting and possible interactions between characters and events depicted, and this will help students create a play that has interest and meaning. Encourage groups to look for comparisons and contrasts between the ancient images and modern life. For example, students may identify different forms of dress but also should note activities that we still engage in during the present day (harvesting crops, and so on).



STUDENTS DO: Observe artwork in groups and determine two choices.

TEACHER DO: As students discuss in small groups, move around and ask each group to share with you their top two choices. Then assign groups a painting. Each painting should be used by at least two groups.

TEACHER SAY: Great. Now each group knows the painting from Ancient Egypt that they will interpret as a play. A play is a way to tell a story. Can anyone describe how a play and a written story are similar and different?

TEACHER DO: Call on two or three students to identify differences and similarities.

 **STUDENTS DO:** Identify similarities and differences between a play and written story.

TEACHER SAY: Yes, in a written story we read about what is happening. In a play, we are able to see how a character behaves, looks, and speaks instead of just reading these descriptions. A play, like a book, has characters, setting, and events that reveal the plot of the story. As we work, we will determine the characters, setting, and main events in the paintings that will be the foundation for our plays. Turn to the page *Parts of the Painting*.

 **READ ALOUD:** List the characters and setting of the painting. Then write sentences to describe what is happening.

TEACHER SAY: Let's begin with just the characters and setting. Work in your groups to determine who is in the painting and where they might be. If the painting does not show the exact location, think about a setting that would make sense. After you create your list of characters, each person in the group should choose a character to play.



 **STUDENTS DO:** List and choose characters and describe the setting of the painting. (If conflict arises, this is an opportunity to practice the Life Skill: Endurance.)

TEACHER SAY: Great. Now we need to think about what is happening in the scene. Take turns sharing what you see and your ideas. Use *Talking Sticks* to make sure each person has a turn. Remember your team goals about being respectful and listening to each other's ideas.



 **STUDENTS DO:** Share descriptions of what is happening in the painting. (This is an opportunity to practice the Life Skill: Respect for Diversity.)

TEACHER DO: Listen as students share ideas. If students struggle with the task, prompt them to look at objects and body positions in the paintings for clues.

TEACHER SAY: Great. We want to make sure we remember all of these ideas, so let's record our thoughts on the page in our student book. Take a moment to write two or three sentences describing the events shown in the painting.

 **STUDENTS DO:** Write to describe the paintings.

4. TEACHER SAY: I love the way I see each group working together to discuss ideas. Now let's continue collaborating to tell the complete story of our paintings. We know a story has more than one event. When we act out the painting in a play, we will also show the events leading up to what is captured in the painting. We can develop the story using our imaginations.

TEACHER DO: Hand out the prepared chart paper to each group.

TEACHER SAY: Work with your group to determine the story that leads up to the scene in the painting. Good writers plan what is going to happen to make sure each event builds to the main event. These large pieces of paper are for your group to plan your story. You may choose to draw pictures or write words to display your ideas. First, lay out your papers in this order: First, Then, Next, So Now, Finally. Your group will plan five events to tell the story. The final event of your story will be the scene in your painting.

TEACHER DO: Write the order of pages on the board for student reference as they work.

5. TEACHER SAY: Before we share all of our ideas together, let's consider our own ideas first. Turn to the page *Planning the Story*.



READ ALOUD: On your own, draw or write ideas for the story.

TEACHER SAY: Let's take some time to independently generate your own ideas. Then, in your

group, you will share your ideas respectfully and combine them with others to develop one story.

 **STUDENTS DO:** Work independently to plan a story.

TEACHER DO: Monitor students as they work to know when to bring the group back together.

TEACHER SAY: In your group, now share your ideas. As you respectfully listen to each other's ideas, think about how the ideas are similar and how you might be able to combine them to make one story. You might also like someone's idea better than your own, and that is okay too.

TEACHER DO: Support groups in sharing ideas for other events of the story. Encourage groups to structure their conversations. Some groups might want to work backward from the painting by discussing what happened just before the scene in the painting and then what happened just before that. Some groups might want to start by determining the beginning of the story and working forward to the final scene in the painting. Assist groups in resolving any conflicts that arise. Give whole class feedback when you notice a group displaying positive collaboration.

 **STUDENTS DO:** Discuss and agree on events leading up to the scene in the painting.

6. TEACHER SAY: Now that we have agreed on ideas for the events in our play, we need to figure out what the characters would say to each other in each scene or event. This is called the DIALOGUE. Raise your hand if you have ever read dialogue for a play before.

 **STUDENTS DO:** Raise hands if familiar with dialogue.

TEACHER SAY: Dialogue is written differently for a play than in a story. When you write dialogue, you first write the name of the character who is speaking and then a colon. After the colon, you write the words the character will say.

TEACHER DO: Write an example on the board or chart paper to **Model** how dialogue is written in a script.

TEACHER SAY: Turn to the page Dialogue. Work together to decide what the characters will say during each scene. Every character should speak at least twice, but every character does not need to speak in every scene. When you act out your play for the class, the dialogue is what you will be speaking out loud. Every group member should write every dialogue line in their own student book so that everyone has a complete script.

 **STUDENTS DO:** Collaborate to write dialogue for the characters to explain each scene.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we planned the events and dialogue for our play based on paintings from Ancient Egypt. You worked hard to effectively use your life skills to collaborate with your group. In your group, share which goal from the beginning of the day was the easiest to accomplish and which goal you are still working on.

 Self-Management

 **STUDENTS DO:** Share progress toward goals with group members. (This is an opportunity to practice the Life Skill: Self-Management.)

Lesson 9

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Collaborate to create appropriate scenery and props for the play.Collaborate to determine how to use body language to help tell the story.	<ul style="list-style-type: none">PropsScenery	<ul style="list-style-type: none">PaintCrayons or colored pencilsRecycled materialsGlueLarge paperSculpture materialsStudent booksPencils
PREPARATION		
<p>Provide a large piece of paper to each group to create background scenery. Groups working on the same ancient painting can work together to create more elaborate scenery if they wish. Gather materials for students to use to create various props as well. Provide paint and colored pencils or crayons for each group of students. Materials used for sculptures in Lesson 7 can be available for students to use again in this lesson.</p>		



Share (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our previous lesson, we planned the events of our story and the dialogue for our play. Let's move back into our groups and review the events of our play as a group.

 **STUDENTS DO:** Retell the events of the play.

TEACHER DO: Hand out student books.

TEACHER SAY: You also each chose a character to be in the play. Take a moment before we start our day to circle your character's dialogue in the script you wrote during the previous lesson.

 **STUDENTS DO:** Circle their dialogue.

TEACHER SAY: Today you will be able to collaborate to use geometric patterns, fingerprinting, block printing, and sculpting—all that we learned throughout the chapter to create scenery and props for your play.

2. **TEACHER DO:** Hand out large paper for groups to illustrate the scenery.

TEACHER SAY: We will start the day by creating the scenery for your play. In the previous lesson, you described the setting of the painting in your student books. Now it is time to consider how you will share the setting with your audience using background images. First, discuss with your group what your scenery should show.

 **STUDENTS DO:** Discuss how to turn the setting description into scenery.

TEACHER SAY: As you create the scenery, consider the paint colors you will use. Remember

how we learned ways to create gradients to make an image look more real. You might want to use this skill in your scenery. Discuss and agree on what colors you will use.



STUDENTS DO: Identify colors to use to create scenery.

TEACHER SAY: We have basic colors of paint available. Who can remind us how to create lighter or darker shades of a color?



STUDENTS DO: Apply understanding of gradients of color to describe how to create various shades.

TEACHER SAY: We will use the first half of our time together today to create the scenery for our plays.



STUDENTS DO: Gather materials, then collaborate to create appropriate scenery for the play.



Endurance

TEACHER DO: Circulate around the room, supporting groups as needed. Help facilitate positive conversations in groups if students have disagreements about what to include. Make sure all students are participating. This is an opportunity for students to practice the Life Skill: Endurance.

3. TEACHER SAY: Great job creating your scenery. I could tell students were applying their understanding of creating various colors to make a detailed scene for the play. Now we will apply what we learned about sculptures, geometric shapes, and block printing to create props. A prop can be a piece of clothing made from paper; jewelry; or an item you can hold, such as food, a plate, a flower, or a fishing net. Use what you learned about geometric patterns, shapes, and sculpture to make your prop look realistic. Turn to the page Planning My Prop in your student book.



READ ALOUD: Draw a picture to show the prop you will create. List the materials you will need.

TEACHER SAY: As you plan, list the materials you will need. It is important to plan your ideas so when we begin creating, we can use our time efficiently.



STUDENTS DO: Draw plans for a prop.

TEACHER DO: As students plan, make note of the materials they need. If you notice students are requesting a material you do not have, be prepared to offer a similar option that is available.

TEACHER SAY: Before we begin creating, share your prop idea with members of your group. Maybe as you share you will notice you have a similar idea and can assist each other in your creations.



STUDENTS DO: Share ideas in groups.

TEACHER DO: As students share, prepare a materials section at the front of the room for students to gather what they need. The remainder of the time for the day will be spent creating props. If groups finish early, encourage them to begin practicing their plays.

TEACHER SAY: I have set up materials here for you to use to create your props. Your group members and I will be available if you need any help as you create.



STUDENTS DO: Create props for the play.

Note to Teacher: If time remains, students may rehearse their play dialogue. In the next lesson, students will discuss ideas for body language.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: I am impressed at how well everyone applied different artistic techniques to create props. Before we end today, share your props with your group members.



STUDENTS DO: Share props.

Lesson 10

Overview

LEARNING OUTCOMES	MATERIALS	LIFE SKILLS
<p>Students will:</p> <ul style="list-style-type: none">• Perform a play using appropriate body language and creativity.• Provide feedback on others' performances.	<ul style="list-style-type: none">• Student books• Pencils• Props• Scenery	<p>Learn to Be Accountability:</p> <ul style="list-style-type: none">• Provide effective feedback.
PREPARATION		
<p>Prior to the start of the day, gather props and scenery in one place, organized by group, so they can be easily accessed for each performance.</p>		



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: Over the past two lessons you have collaborated to interpret a painting from Ancient Egypt into a play. By doing this, you are able to tell your own version of the story behind the painting. I am so proud of how well you have worked with your group members and practiced your life skills to be successful. Today you will perform your play for the rest of the class. Move into your group and get your props ready.

 **STUDENTS DO:** Prepare for performances.

2. TEACHER SAY: Before we watch each performance, I want groups to have an opportunity to practice acting out their play. Use the dialogue and props, and think about the details of your scene. How you will move around? What will your voice sound like? Will it be loud or soft? Happy or sad? When you perform a play, you show the audience how you are feeling by the way you speak and how you act with your body. Think about when you watch a show on TV. If a character is angry, he or she might shout. What might this character do with their hands and arms? Stand to practice showing anger using only your body.

 **STUDENTS DO:** Show emotion through body language.

TEACHER DO: Prompt students to practice showing other emotions that might be helpful for the plays, such as adoration, fear, or excitement, using body language.

TEACHER SAY: As you rehearse, think about how you are acting with your voice and body to tell the story. Take time to rehearse now in your groups.

 **STUDENTS DO:** Rehearse plays.

TEACHER DO: Move around to each group while they rehearse. Praise students for taking risks and acting as their characters. Praise creativity in the performances.

3. TEACHER DO: At the front of the room, prepare the first play's scenery and the original painting on which the play is based.

TEACHER SAY: Now we are ready to perform for the class. After each group performs, be prepared to offer compliments on the play. Think about the props, scenery, and creativity in their acting. Think about how the play tells the story of the painting.

TEACHER DO: Display the painting that is the basis for each play before groups present. After the performance, use **Calling Sticks** to have several students share compliments before continuing to the next play. If possible, have students perform the plays interpreting the same painting back to back.



STUDENTS DO: Perform plays and provide positive compliments to other groups. (This is an opportunity for students to practice the Life Skill: Accountability.)

4. TEACHER SAY: Wow. What amazing performances. Each group was able to collaboratively perform their own interpretation of the story behind a painting from Ancient Egypt. Let's turn to the My Self-Assessment in our student books and think about how we did on this Share Project.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we creatively interpreted a piece of art from Ancient Egypt. In order to do so, we applied many different art forms to create a complete play. Let's share a type of art we would like to create in a future lesson.

TEACHER DO: Use the strategy **Popcorn** to have students share.

Rubric Assessment (for teacher use)

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Contributes minimally or only with teacher assistance to create dialogue that expresses the story told in the play. <i>Drama B.2., 3.</i>	Contributes to create dialogue that expresses the story told in the play. <i>Drama B.2., 3.</i>	Contributes original and insightful dialogue that expresses the story told in the play, and assists peers in converting ideas into dialogue. <i>Drama B.2., 3.</i>
	Creates a narrative about imagined events related to the piece of artwork with little detail or with help from peers or the teacher. <i>Writing B.1.a.</i>	Creates a narrative about imagined events related to the piece of artwork that features descriptive details. <i>Writing B.1.a.</i>	Creates an especially creative, detailed narrative about imagined events related to the piece of artwork. <i>Writing B.1.a.</i>
	Develops a story that contains five events in an unclear progression or with help from peers or the teacher. <i>Writing B.1.d.</i>	Develops a story that contains five events in a natural progression. <i>Writing B.1.d.</i>	Develops an engaging story that contains five events in a clear and thoughtful progression. <i>Writing B.1.d.</i>
	Plans and creates a sculpture to use as a prop for the play with help from peers or the teacher. <i>Visual Art A.3.c.</i>	Plans and creates an appropriate sculpture to use as a prop for the play. <i>Visual Art A.3.c.</i>	Plans and creates an especially creative sculpture to use as a prop for the play and incorporates other artistic skills, such as block printing or geometric patterns. <i>Visual Art A.3.c.</i>
Quality of Performance	Creates scenery that demonstrates a minimal understanding of how to create different gradients from basic colors.	Creates scenery that demonstrates an understanding of how to create a variety of gradients from basic colors.	Creates scenery that demonstrates an advanced understanding of how to create a variety of gradients from basic colors.
	Uses minimal expression of voice and body during the play. <i>Speaking and Listening A.4.a.</i>	Uses appropriate expression of voice and body to enhance the dialogue of the play. <i>Speaking and Listening A.4.a.</i>	Uses exceptional expression of voice and body to build a sense of character and enhance the dialogue of the play. <i>Speaking and Listening A.4.a.</i>
Life Skills	Collaborates with teammates but may have difficulty soliciting and/or showing respect for the ideas of others. <i>Respect for Diversity</i>	Collaborates effectively by soliciting and showing respect for the ideas of others. <i>Respect for Diversity</i>	Collaborates effectively by soliciting and showing respect for the ideas of others. Takes on a leadership role and helps organize the team in this work. <i>Respect for Diversity</i>
	Offers feedback that contributes to the success of the team with help from peers or the teacher. <i>Accountability</i>	Offers helpful feedback that contributes to the success of the team. <i>Accountability</i>	Offers helpful and insightful feedback that contributes to the success of the team and demonstrates empathy. <i>Accountability</i>

PRIMARY 3

Multidisciplinary

HOW THE WORLD WORKS

ORIGINS

Chapter 3: Origins of Medicine

Chapter Overview

Origins of Medicine

COMPONENT	DESCRIPTION	LESSONS
 Discover	Students read a story to discover different treatment options for an illness. Students write a personal narrative to describe previous experiences with illness. Students identify and write fact, opinion, and fiction statements.	2
 Learn	Students learn about how scientific processes are used in medical professions and the origins of this approach in Ancient Egypt. Students learn the difference between primary and secondary sources and the purpose of each. Students research how medical treatments have changed and evolved over time and how current practices are impacted by the past.	5
 Share	Students analyze elements of a narrative. Students make connections to the chapter topic and write a sequential fourth chapter to the story. Students provide feedback to others and use peer feedback to strengthen narratives.	3

Connection to Issues



Globalization: Technology helps us communicate and exchange ideas around the world. We can learn from people around the world and also share our ideas and culture with others.



Life Skills Addressed

DIMENSION	DESCRIPTION
Learn to Know	<p>Critical Thinking:</p> <ul style="list-style-type: none"> Identify subject/topic-related information. Explain thinking processes. <p>Problem-Solving:</p> <ul style="list-style-type: none"> Collect problem-related data.
Learn to Work	<p>Collaboration:</p> <ul style="list-style-type: none"> Respect for other opinions. <p>Decision-Making:</p> <ul style="list-style-type: none"> Identify results and expected results.
Learn to Live Together	<p>Respect for Diversity:</p> <ul style="list-style-type: none"> Solicit and respect multiple and diverse perspectives to broaden and deepen understanding. <p>Empathy:</p> <ul style="list-style-type: none"> Demonstrate empathy in communicating with others.
Learn to Be	<p>Accountability:</p> <ul style="list-style-type: none"> Provide effective feedback. <p>Communication:</p> <ul style="list-style-type: none"> Reading, writing, non-verbal communication skills.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

D. Reading Skills: Fluency

- 1.a. Read texts at grade-appropriate difficulty with a level of accuracy and fluency to support understanding.
- 1.c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

E. Reading Comprehension: Literature

- 1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- 1.b. Describe and compare characters in a story (such as their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.
- 4.a. Answer questions about the logical connection between particular sentences and paragraphs in a text (such as comparison, cause/effect, or sequence).
- 4.b. Identify the main ideas and sub-ideas in a paragraph.

F. Reading Comprehension: Informational Text

- 3.a. Answer questions about the relationship between a series of events, ideas, or steps in a procedure in a text, using language that pertains to time, sequence, and cause/effect.
- 6.a. Identify the reasons an author gives to support key ideas in a text.
- 7.a. Compare similarities and differences between the most important points and key details presented in two texts on the same topic.
- 8.a. Read and comprehend informational text at appropriate difficulty level for Primary 3.

G. Language: Vocabulary Acquisition and Use

- 1.e. Choose words and phrases for an intended effect or tone.
- 1.g. Demonstrate command of the conventions of grammar and usage when writing or speaking.

WRITING:

A. Foundational Skills

- 1.a. Write complete sentences using punctuation, prepositions, and coordinating conjunctions (such as ﻓ, ﻃ, و) as appropriate.

B. Narrative

- 1.a. Write narratives to express real or imagined experiences or events, using descriptive details and clear event sequences.
- 1.c. Use dialogue and descriptions of actions, thoughts, and feelings to express experiences and events or show the response of characters to situations.
- 1.d. Organize an event sequence that unfolds naturally, using temporal words and phrases to signal event order.

D. Process, Production, and Research

- 1.a. Use graphic organizers to plan writing.
- 1.b. Utilize questions and suggestions from peers to strengthen writing.

- 1.c. Review and revise personal writing to strengthen it.
- 2.a. Use a variety of digital tools to produce and publish writing, independently and in collaboration with peers.
- 2.b. Participate in collaborative research.
- 3.a. Research a specific topic or question using a variety of resources.

SPEAKING AND LISTENING:

A. Foundational Skills

- 1.a. Engage effectively in a range of collaborative discussions with peers and adults in small and larger groups.
- 1.b. Follow agreed-upon rules for discussions.
- 1.c. Listen to the speaker with interest and attention until the end of the statement or story.
- 1.d. Summarize and determine the main ideas and supporting details of a text that has been read aloud.
- 1.e. Listen to speakers in order to make connections; comprehend; and gain, clarify, or deepen understanding of a topic or issue.
- 1.f. Build on others' ideas in discussion and express own ideas clearly.
- 2.a. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details.
- 3.a. Use audio, digital, and visual media (drawings, graphs, or displays) in presentations.
- 4.a. Speak clearly and at an understandable pace with appropriate tone, gestures, and body language.
- 5.a. Speak in complete sentences, following grammatical rules, in order to provide requested detail or clarification.

SCIENCE:

A. Skills and Processes

- 1.a. Ask questions that can be investigated using simple tests.
- 1.b. Design simple investigations to collaboratively produce data that answers a question.
- 1.d. Construct an explanation with evidence (such as observations, patterns) and/or data.

SOCIAL STUDIES:

B. Historical Thinking and Knowledge

- 1.c. Distinguish between fact, opinion, and fiction in representations of history.
- 1.d. Explain the structure and purpose of a timeline to document chronology.
- 1.e. Trace the chronology of a historical event using a timeline.
- 1.g. Explain the benefit of using multiple sources to study history.
- 2.a. Distinguish between events in the recent and distant past (for example, by using a timeline).
- 2.b. Demonstrate how two or more current or historical events are connected (such as through common themes, persons, circumstances).
- 2.d. Compare past and present situations, people, or events in the local community.

VOCATIONAL FIELDS:

A. Career Social Skills and Preparation

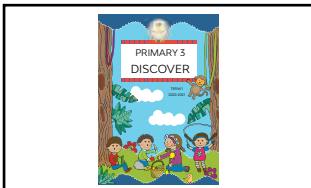
- 1.e. Identify the physical locations of various jobs.
- 2.a. Explain how current work habits (such as focusing on a task, time management, and collaboration) at home and school can transfer to the workplace.
- 4.a. Identify examples of various occupations in personal networks (such as family members or familiar adults) especially in hotel and tourism jobs (such as guides and chefs).
- 4.c. Collect information on how local occupations contribute to the community and protect and conserve the environment.

Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	DISCOVER: Students will: <ul style="list-style-type: none">Share personal experiences.Write a personal narrative with a clear beginning, middle, and end.Identify statements as fact or opinion.
2	DISCOVER: Students will: <ul style="list-style-type: none">Sort statements by fact, opinion, and fiction.Communicate an opinion through writing.Write fact, opinion, and fiction statements on a familiar topic.
3	LEARN: Students will: <ul style="list-style-type: none">Describe the contributions of Imhotep to the field of medicine.Describe the use of facts in early medicine.Conduct a simple experiment to prove a fact.
4	LEARN: Students will: <ul style="list-style-type: none">Identify primary sources.Analyze primary sources.Compare the reliability of different primary sources.
5	LEARN: Students will: <ul style="list-style-type: none">Recognize secondary sources.Use secondary sources to examine the history of medicine.Compare primary and secondary sources.
6	LEARN: Students will: <ul style="list-style-type: none">Compare past and present hospitals.Identify contributions of modern-day Egyptian doctors.Use questioning strategies to diagnose a problem.
7	LEARN: Students will: <ul style="list-style-type: none">Research tools used in medicine.Compare past and present tools used in medicine.Compare timelines of medical history.
8	SHARE: Students will: <ul style="list-style-type: none">Identify traits of characters in a fictional story.Explain how the setting impacts the story.Identify possible solutions to a problem in a story.
9	SHARE: Students will: <ul style="list-style-type: none">Share final stories with peers.Create a cover for the book.
10	SHARE: Students will: <ul style="list-style-type: none">Synthesize learning about healthy choices to develop a plan for a canteen.Present elements of the canteen plan in both written and oral forms.

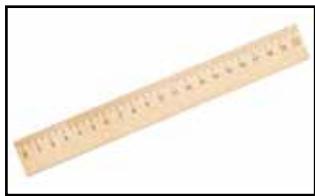
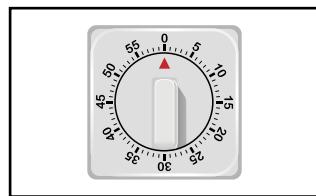
Materials Used

Student book



Pencils





Lesson 1

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Share personal experiences.Write a personal narrative with a clear beginning, middle, and end.Identify statements as fact or opinion.	<ul style="list-style-type: none">FactOpinionTreatment	<ul style="list-style-type: none">Student booksPencilsCrayons
LIFE SKILLS		
<p>Learn to Live Together Respect for Diversity: <ul style="list-style-type: none">Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.</p>		



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: We are starting a chapter called "Origins of Medicine." Using what you know about the word ORIGIN, what do you think we might learn?

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing.

STUDENTS DO: Predict what they will learn.

TEACHER SAY: Those are some great ideas. Medicine doesn't just mean things we take when we are sick. We call it the "field of medicine" and we include all things related to health and healing, like nurses, doctors, the treatment of illness, research and so much more. We will be learning about how the field of medicine—as we know it today—developed. Did you know that Egypt played a big role in developing and advancing the field of medicine? As we learn more, we will also consider how we learn from history and how we compare information about people and events from history.

2. TEACHER DO: Hand out student books.

TEACHER SAY: Let's begin our work together by reading a story about Rashad. Our story has three chapters, and for the Share Project you will write the next chapter in his story. Open your books to the page Rashad is Sick: Chapter 1. As you read about Rashad, think about how he is feeling. Think about how his family suggests treating his illness.

STUDENTS DO: Read the story independently.

TEACHER SAY: Thank you for reading the story. Turn to a **Shoulder Partner** and discuss how Rashad is feeling. What does his grandma suggest he do?

STUDENTS DO: Share with **Shoulder Partner**.

TEACHER DO: After providing a moment for students to share, use **Calling Sticks** to have two or three students identify Rashad's problem and the suggested treatment (that he drink warm tea).

TEACHER SAY: Rashad is very tired and has a sore throat. Why does his grandma suggest drinking warm tea?



STUDENTS DO: Share ideas.

TEACHER SAY: Rashad's grandma thinks the tea will help his throat because it is her usual treatment and has worked for her before. Raise your hand if you have ever had a sore throat. What about a headache? Stomachache?



STUDENTS DO: Raise hands to answer each question.

TEACHER SAY: We have all been sick before. Take a moment to think about a time when you were sick.

TEACHER DO: Provide **Think Time** before continuing.

TEACHER SAY: Turn to your **Shoulder Partner** to share about a time you were sick. How did you feel? What did you do to feel better? How did your family members try to help?



STUDENTS DO: Share with **Shoulder Partner**.

TEACHER DO: Listen as students share and discuss. Ask students guiding questions to help expand on their experiences.

TEACHER SAY: When we are feeling sick, adults give us lots of suggestions for ways we can feel better. This is often based on things they did in the past that worked, like Rashad's grandma saying the warm drink soothes her sore throat. Has anyone in your family ever suggested something to help you feel better when you were sick?

TEACHER DO: Provide **Think Time** before continuing.

TEACHER SAY: Let's all stand up. We will share with a few friends in the classroom something a family member has suggested for us when we are sick. Let's use **Hands Up Pair Up** to find a new partner for sharing.

TEACHER DO: Facilitate **Hands Up Pair Up** to allow students to share with two or three different students. Listen for similarities as students share.

TEACHER SAY: Thank you for sharing. I heard some similar suggestions you have received from family members. [Name common suggestions overheard.] I wonder: Did your family members' suggestions work? Or did you have to try something else?



STUDENTS DO: Share ideas.

TEACHER DO: Continue to facilitate a conversation about being sick and what treatments students might have tried, at the suggestion of family members or other sources. Questions to encourage conversation may include:

- How did you feel after trying the treatment?
- Who helped you at home?
- What other treatments did you try?
- Did you ask anyone else for advice?



Respect for
Diversity

This is an opportunity for students to practice the Life Skill: Respect for Diversity.

3. TEACHER SAY: Thank you for sharing your experiences. In this chapter we will be connecting history to what we know today. Learning from history and current sources, we will think about the best ways to respond to illnesses. As we begin, let's practice writing about our own experiences. We will turn what we just shared into a narrative. Turn to the page Once When I Was Sick....



READ ALOUD: Write the beginning, middle, and end of a story to share a time you were sick and what you did to feel better.

Note to Teacher: Use the questions below to help guide students as they Brainstorm prior to illustrating and writing. The questions can be used to lead a discussion as a whole class or to provide individual Think Time before working in the student books.

TEACHER SAY: We want to write a full story about our personal experience with being sick and then feeling better. Let's start at the beginning. Take some time to think about:

- What was happening when you first felt sick?
- Where were you?
- Who were you with?
- Who did you tell?



STUDENTS DO: Use Think Time.

TEACHER SAY: In the first box, write and illustrate the beginning of your story. You may choose whether you want to write or draw first, but make sure you have time for both as we work on each section.



STUDENTS DO: Write and illustrate the beginning of the personal narrative.

TEACHER SAY: Next, illustrate and write the middle of your story. Think about:

- What happened next?
- What did you try first to feel better?
- Who was trying to help you?



STUDENTS DO: Use Think Time, then illustrate and write the middle of the story.

TEACHER SAY: Finally, let's consider the end of our stories. Think about:

- What did you finally have to do to feel better?
- Did a suggestion from your family work?
- Who helped you?



STUDENTS DO: Illustrate and write the end of the story.

TEACHER DO: Provide additional time for students to complete all three parts of the narrative. Once students are finished writing and illustrating, divide them into groups of four or five to share stories. You may facilitate sharing using Talking Sticks.

4. TEACHER SAY: Great job thinking about what you did when you were in a similar situation as Rashad. Let's read a little bit more about Rashad to see if he hears any new treatments for his illness. Turn to the page Rashad is Sick: Chapter 2 and read the second chapter to yourself.



STUDENTS DO: Read the story independently.

TEACHER DO: Support students with independent reading as necessary.

TEACHER SAY: What new treatment does Rashad hear about in this chapter?

TEACHER DO: Call on two or three students to share ideas. If students do not refer back to a specific part of the text, remind or prompt them to use the text as evidence for answers.



STUDENTS DO: Share ideas using evidence from the text.

TEACHER SAY: Rashad hears about a medicine on a commercial. I wonder if Rashad should listen to everything he hears on the commercial. What do you think?

TEACHER DO: Facilitate a conversation about commercials to access students' prior knowledge and experience.

- What is a commercial?
- Why do you think people make commercials?
- Do you think commercials always tell the truth? Why or why not?



STUDENTS DO: Discuss prior knowledge about commercials.

TEACHER SAY: Commercials try to persuade or convince us to buy something or do something. The commercial that Rashad saw on television is trying to convince him to buy a medicine. Look back at the story and reread what Rashad heard in the commercial.



STUDENTS DO: Reread part of the story.

TEACHER DO: Call on student volunteers to list ideas from the commercial, then record student answers on a board or chart paper. Statements should include:

- Take the medicine and your fever will go away.
- It is the best medicine you can take.
- You can buy the medicine at a pharmacy.

TEACHER SAY: Let's analyze what Rashad heard in the commercial. Some of the statements we heard are facts. Have you heard this word FACT before? What do you think it means?



STUDENTS DO: Share ideas.

TEACHER SAY: A fact is a statement that is true and can be proven or verified. "No prescription needed" is a fact stated in this commercial. I can verify this fact by walking into a pharmacy to see if they sell the medicine without a prescription from a doctor. Some statements we hear in commercials are opinions, not facts. An OPINION is what one person believes or feels. An opinion is not always true and cannot be proven. For example, I might say, "The most delicious desert is om ali." You might agree with me, or you might have a different opinion on the most delicious desert. Who has a different opinion about the most delicious desert?



STUDENTS DO: Raise hands to share opinions.

TEACHER SAY: Can we prove or verify whether om ali or [another student's opinion] is the most delicious dessert? Why or why not?



STUDENTS DO: Share ideas.

TEACHER SAY: I can try to convince you to agree with me, but I cannot prove whether or not something is the most delicious as a fact. Delicious is an opinion that I hold. Look at these three statements again from the commercial. Two of the statements are facts and one is an opinion. Which are the facts? Which one is the opinion?

TEACHER DO: Have all students respond by raising a hand if the statement is a fact or keeping hands down if it is an opinion. Ask students to explain how they know if the statement is a fact or opinion, such as you can measure a person's temperature to verify the fact that the medicine lowers a fever.



STUDENTS DO: Identify fact and opinion statements.

TEACHER SAY: Understanding fact versus opinion will help us as we use various sources during this chapter to learn about the origin of medicine in Egypt. We will be able to determine if what we are reading is a fact that everyone understands to be true or a person's opinion. Think about the commercial again. Do you think we should believe everything we hear in a commercial if it is a mix of fact and opinion?

TEACHER DO: Lead a discussion on the believability of a commercial. Revisit what students discussed previously regarding the purpose of a commercial.

Note to Teacher: In this discussion, reinforce for students that commercials try to convince us to do something or purchase something. They often use a mixture of facts and opinions to do so. What is being sold in the commercial might not be something you need, and commercials should not be considered as only providing facts. This is a topic that was also discussed in Theme 1, Chapter 1.



STUDENTS DO: Discuss the believability of commercials.

TEACHER SAY: Great job analyzing commercials. As we continue our work in this chapter, we will be able to use what we learn to help Rashad make a good decision about treating his illness.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we began thinking about sources of information to help treat our friend Rashad as he is sick. We read about his grandmother's idea for treatment and then a commercial with a treatment suggestion. When his grandma said the warm drink will be helpful, was she stating a fact or opinion? How do you know? Share with a **Shoulder Partner**.



STUDENTS DO: Share with **Shoulder Partner**.

Lesson 2

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Sort statements by fact, opinion, and fiction.Communicate an opinion through writing.Write fact, opinion, and fiction statements on a familiar topic.	<ul style="list-style-type: none">FictionReliable	<ul style="list-style-type: none">Student booksPencils
		LIFE SKILLS
		<p>Learn to Work</p> <p>Collaboration:</p> <ul style="list-style-type: none">Respect for other opinions.



Discover (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we began reading a story about Rashad and his illness. What were the two different treatment options suggested to Rashad so far?

TEACHER DO: Call on student volunteers to share what they recall from the previous lesson.

TEACHER SAY: Yes. His grandma suggested a warm drink and a commercial suggested a specific medicine. Today we will examine more sources of information for treating Rashad.

2. **TEACHER DO:** Hand out student books.

TEACHER SAY: Let's continue our story to see what is happening with Rashad. Open to the page Rashad is Sick: Chapter 3 and read the story with a **Shoulder Partner**.

STUDENTS DO: Read the story in pairs.

TEACHER SAY: In this chapter of Rashad's story, we hear from two new sources of information. Turn and share with a **Shoulder Partner** the two treatment options suggested in the story.

STUDENTS DO: Share with **Shoulder Partner**.

TEACHER DO: Listen to make sure students identify Yasmeen's suggestion and the father's suggestion about speaking to a doctor.

TEACHER SAY: I heard you mention that Yasmeen and Rashad's father both give suggestions. Let's start by thinking about what Yasmeen said. She thinks eating lots of carrots, like in her story from school, will make Rashad's sore throat go away. The source of her information is a children's story book. Do you think this is a fact that Rashad should listen to? Why?

TEACHER DO: Provide **Think Time** before using **Calling Sticks** to have students share responses.

STUDENTS DO: Share ideas.

TEACHER SAY: In the previous lesson, we discussed fact and opinion. Think about Yasmeen's suggestion again. Is she sharing a fact or an opinion? Or is her idea to eat lots of carrots neither?

TEACHER DO: Provide **Think Time** before continuing. Gesture to one side of the room, then the

other, then the middle of the room (or three corners) as you instruct students how to vote in the next learning experience.

TEACHER SAY: Let's get up and move to share what we are thinking. If you think Yasmeen is sharing a fact, move to this part of the room. If you think Yasmeen is sharing an opinion, move to this part of the room. If you think Yasmeen's statement is neither fact nor opinion, move here.

TEACHER DO: Direct students to three separate areas of the classroom.



STUDENTS DO: Move to an area in the room to choose an answer.

TEACHER SAY: In your group, share why you made your choice.



STUDENTS DO: Discuss choices in three groups.

TEACHER SAY: Yasmeen's suggestion is neither fact nor opinion. It is fiction. Fiction means the events are make-believe. The author that wrote the children's book used imagination to decide that in a story, lots of carrots would make a rabbit feel better. We have no way of knowing if this would actually work in real life for a rabbit or for Rashad as a human. Who can review the three categories we now have for sorting statements?



STUDENTS DO: Summarize the three categories of fact, opinion, and fiction.

TEACHER SAY: Now Rashad has heard the opinion of his grandmother, the facts and opinions in the commercial, and the fictional information from his sister. Rashad also heard from his dad. His dad thought he should go to see a doctor. Do you think the doctor's treatment suggestion will be a source of fact, opinion, or fiction?

TEACHER DO: Use **Calling Sticks** to have six to 10 students share ideas.



STUDENTS DO: Share responses.

Note to Teacher: At this age, it is important for students to recognize the suggestions of doctors as facts, despite the reality that often, as adults, we seek multiple opinions of doctors, especially in serious circumstances. If students bring up such an example, you can explain that the training a doctor goes through allows him or her to provide factual suggestions instead of labeling these as educated "opinions."

TEACHER SAY: The doctor's treatment suggestion would be considered a fact. Let's take some time to practice distinguishing between fact, fiction, and opinion statements. Turn to the page **Fact, Fiction, Opinion**.



READ ALOUD: Read each statement. Decide whether the statement is fact, fiction, or opinion, and then write your answer next to the statement.

TEACHER SAY: Each statement is about being healthy. We learned a lot about being healthy in our first chapter this year. We can use what we learned to help us determine if a statement is fact, fiction, or opinion. We will work in groups to make a determination for each statement. We will use the strategy **Numbered Heads**. I will read each statement one at a time. In your group, you will discuss your answer and come to a consensus. I will then call a number. That person in the group will stand and share the group's answer.

TEACHER DO: Organize students in groups of four or five, assigning each group member a number. After reading each statement, allow groups to discuss answers and then call a number (1 to 5). Invite three or four students standing to share answers. Ask students to explain why the group made that choice.



STUDENTS DO: Discuss answers and come to a consensus for each statement in small groups.

TEACHER SAY: You did a wonderful job deciding whether these statements were fact, fiction, or opinion. Let's continue applying our understanding of these categories, but this time we will write our own statements. Turn to the next page, **Statements About My Health**, and read the directions independently or with a **Shoulder Partner**.

 **STUDENTS DO:** Read directions.

TEACHER SAY: We will each write three statements about our own health or healthy habits. Then, we will share these statements with a partner. The partner will try to identify the fact, the fictional statement, and the opinion. For example, here are my three statements.

1. I eat vegetables every night at dinner.
2. If I only eat vegetables, I will never get sick.
3. The best vegetable to eat is zucchini.

Think about each statement. Which is fact, which is fiction, and which is my opinion? Turn and share your thoughts with a **Shoulder Partner**.

 **STUDENTS DO:** Identify the fact, fiction, and opinion statements.

TEACHER SAY: Good. Let's start by writing our three health statements. When you are finished, put your pencils down so I know you are ready to share.

 **STUDENTS DO:** Write three statements.



TEACHER DO: Monitor student work to determine when to move on to the next part of the activity. Make note if you need to reteach the difference between the three types of statements. This is an opportunity for students to practice the Life Skill: Collaboration.

TEACHER SAY: Now, let's turn to a **Shoulder Partner** to share your statements. See if you can determine which statement is fact, fiction, and opinion.

 **STUDENTS DO:** Share and identify the three types of statements.

3. TEACHER SAY: Great job determining fact, fiction, and opinion. Understanding the difference will help us as we determine if a source of information is believable or reliable. RELIABLE means that the information is accurate, and we can count on the information to be true. Let's analyze the sources of information that Rashad is receiving and then we will determine which source would be the most reliable. Open your books to the page Treatment Options.



READ ALOUD: Use the first three chapters of the Rashad story to complete the chart.

TEACHER DO: Review what information should be written in each column of the chart. Students can work independently or in pairs. Students' rows should be similar to:

Source for Information	Treatment	Fact, Fiction, Opinion?
Mom	Cold Towel	Opinion

TEACHER SAY: As you record the information, continue considering this question: Which treatment should Rashad choose? Which treatment option is the most reliable?

 **STUDENTS DO:** Complete the graphic organizer.

TEACHER DO: If time permits, before moving into the closing activity, have students orally share which treatment they would consider the most reliable and explain why. If students struggle to compare all the options, present choices in pairs, such as: commercial vs. Yasmeen's idea; grandma or mom vs. the doctor; the doctor vs. the commercial.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we continued to discuss Rashad's options for how to treat his sickness. We analyzed his choices by representing the source of each option in a graphic organizer. As we worked, we considered the question: Which treatment should Rashad choose? Let's record our answers on the bottom of the page.

TEACHER DO: Read the sentence starter to the class, then let students individually complete the sentence.

 **STUDENTS DO:** Write recommendations for Rashad's treatment.

Lesson 3

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Describe the contributions of Imhotep to the field of medicine.Describe the use of facts in early medicine.Conduct a simple experiment to prove a fact.	<ul style="list-style-type: none">Papyrus	<ul style="list-style-type: none">BellTwo pieces of breadTwo resealable plastic bagsMarkerStudent booksPencils
PREPARATION	<p>LIFE SKILLS</p> <p>Learn to Know</p> <p>Critical Thinking: • Explain thinking processes.</p> <p>Problem-Solving: • Collect problem-related data.</p>	



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we talked about facts, fiction, and opinion and determined what we thought would be the best treatment option for Rashad. Turn to a **Shoulder Partner** to share what you wrote at the end of the day.

TEACHER DO: Hand out student books and direct students to the page Treatment Options.



STUDENTS DO: Share sentences with **Shoulder Partner**.

TEACHER SAY: Rashad's father encouraged him to go see a doctor. Have you ever been to a doctor? Why do you go to the doctor?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share experiences and ideas.

TEACHER SAY: What does a doctor do while he or she is with you?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share experiences.

2. **TEACHER SAY:** Doctors go to school for a long time to learn about all the different parts of the body and how they work together. When you go to the doctor, he or she collects a lot of information. What kinds of questions do doctors ask?



STUDENTS DO: Share ideas.

TEACHER SAY: Doctors ask questions about how you are feeling or how you injured yourself. They also often measure different things like your temperature and weight. What else do they measure?



STUDENTS DO: Share ideas, such as pulse or height.

TEACHER SAY: Doctors also closely examine where you are hurting. Then, they tell you about your problem and what they can do to help you. However, this was not always the process doctors used. Have you ever wondered how our modern approach to medicine and doctors came about? It actually has many origins in Egypt. Over the next few days, we will learn about some of the significant contributions our country has made throughout history.

Before we start, I wonder: How do we learn about history?



STUDENTS DO: Share ideas.

TEACHER SAY: When we want to learn about a patient's health, we examine evidence by asking questions, taking measurements, observing, and testing. With history, we cannot observe it directly like we can an injury or illness, but we can follow a similar process of examining evidence. Can you think of an example of when you examined evidence?



STUDENTS DO: Share experiences (any science investigation in the classroom would serve as an example).

TEACHER SAY: Thousands of years ago, ancient Egyptians did not understand diseases. They did not know why people got sick. They thought that maybe spirits affected the way the body worked, so they would pray for healing.

An Egyptian named Imhotep approached sickness and injuries differently than others in his time, which was around 2600 BCE. Imhotep began to change the way Egyptians thought about health and medicine. Let's learn some more about Imhotep. Open your student books to the page Imhotep.



STUDENTS DO: Read the directions, listen to the text, then complete the reflection.

TEACHER DO: Due to the difficulty of this text, read it aloud once for the class as students follow along. Pause periodically to ask questions, explain words, or check for comprehension.

3. TEACHER SAY: Let's share our learning using a new strategy called **GoGoMo**. This stands for Give One, Get One, Move On. When I say, "begin," stand and find a partner. Give one idea to your partner from the text, get one idea from your partner, and then move on and find a new partner. Then repeat the process. When I ring the bell, please take your seats. Who can tell me the directions again?

TEACHER DO: Use **Calling Sticks** to select a student to respond.



STUDENTS DO: Restate the directions.

TEACHER SAY: Very good. You may begin.



STUDENTS DO: Use **GoGoMo** to share ideas from the text. (This is an opportunity to practice the Life Skill: Critical Thinking.)

TEACHER DO: Circulate around the room, encouraging students as needed. Ring the bell for students to return to seats after they share information a few times.

TEACHER SAY: Very good. What are some questions you still have after reading and sharing?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share questions with the class.

TEACHER DO: If student questions can be answered in the text, refer the class to specific parts of the text. If not, ask the class where they think they could find answers.

4. TEACHER SAY: What makes Imhotep so unique is the way he used facts and what we call a scientific process or scientific thinking. Earlier this year we investigated bird beaks. Remember the process we used. How was that investigation similar to what Imhotep did?



STUDENTS DO: Share ideas.

TEACHER SAY: Yes, in our investigation we observed, we collected data, we analyzed the data, and we made conclusions about which would be the best beak for eating each type of food. According to the documents we have, it appears that Imhotep was one of the first people to record data using this type of process with health issues. He recorded observations and data to make conclusions about different illnesses and treatments. He observed the ill or injured person, he asked them questions, and he took very detailed notes. Based on the facts he collected over time, he planned a way to help people with similar illnesses.

Medical knowledge today is based on facts from provable evidence. We identify facts in science and medicine by looking at evidence. Let's do an experiment over the next few days to experience this process. A fact we know from science is that germs can be spread by touching things. This is why it is important to wash our hands often. Let's see if we can prove this fact with evidence.

TEACHER DO: Hand a piece of bread to a student and have them pass it to another student. Continue passing the bread until everyone has touched it.

TEACHER SAY: While we talk, please pass this piece of bread to each student in the class. The last person will place the bread in this bag and close it securely. Look at your hands. Do you think they are clean?



STUDENTS DO: Share ideas while passing a piece of bread around from student to student.

TEACHER DO: Label this bag "Not Cleaned Hands."

Note to Teacher: Consider the most efficient way for students to wash hands thoroughly. It might be easiest to have a couple buckets of water and soap, or take trips with a small number of students at a time to the bathrooms if there are no sinks in the classroom.

TEACHER SAY: Now, let's wash our hands very well.



STUDENTS DO: Wash hands thoroughly.

TEACHER SAY: We are going to pass around another piece of bread for everyone to handle now that we have washed our hands. As we pass the bread around, observe your hands. Do your hands look any different than before?

TEACHER DO: Hand out a new piece of bread.



STUDENTS DO: Pass around a new piece of bread and then seal it in another plastic bag.

TEACHER SAY: I will label this bag "Cleaned Hands."

TEACHER DO: Use a marker and label the bag "Cleaned Hands." Tack or staple both bags to the wall where everyone can observe them over the next few days. Bread made at home or fresh from a bakery will develop mold more quickly than store-bought bread with preservatives.

TEACHER SAY: Open your student books to the page Bread Experiment.



READ ALOUD: Record your observations and draw a picture of what you see.



TEACHER SAY: Like Imhotep, we will observe and carefully record notes on these bags over the next week. We will see if the evidence proves that germs can be spread by touching things. What do you predict we will see? Tell your **Shoulder Partner**.

 **STUDENTS DO:** Share thoughts with **Shoulder Partner**.

TEACHER SAY: Another interesting part of the Edwin Smith Papyrus we read about is that it contains the first written description of the brain. The brain is mentioned seven times throughout the text. The papyrus also explains that blood is pumped through the body from the heart. This knowledge was lost and not rediscovered for another 2000 years. Why do you think this information was lost for 2000 years?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.

 **STUDENTS DO:** Share thoughts with the class.

5. TEACHER SAY: Throughout this chapter, we will be creating a timeline of some major contributions to the field of medicine. A timeline can help us understand when things happened. We have created multiple timelines this year. Who remembers what other topics we organized into a timeline?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Correct, we made a timeline of important events in our lives and one of artistic artifacts. Pictures can help us understand and learn about the events on a timeline. What kind of pictures did you put on your timelines?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Yes, we used pictures that described important events in our own lives, like losing a tooth or learning to ride a bicycle. As we learn about the history of medicine in this chapter, let's produce our own images that will help us remember important events. The first point on our timeline will represent Imhotep. Open your student books to the page **Images for Timeline**.



READ ALOUD: Create images for our timeline. Record the time period in the bottom-right corner of each picture.

 **STUDENTS DO:** Create an image to represent Imhotep.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we learned about an influential Ancient Egyptian, Imhotep. How do writings from the past help us understand the origin of medicine? Why is it important to write things down? Discuss with your **Shoulder Partner**.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

Lesson 4

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
Students will: <ul style="list-style-type: none">Identify primary sources.Analyze primary sources.Compare the reliability of different primary sources.	<ul style="list-style-type: none">Primary sourceVerify	<ul style="list-style-type: none">Student booksPencilsPapyrus sample (optional)
PREPARATION	LIFE SKILLS	
Display for the class a sample or images of papyrus if available.	<p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">Identify subject/topic information. <p>Problem-Solving:</p> <ul style="list-style-type: none">Collect problem-related data.	



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: Let's begin today by recording observations of our bread experiment. Open your student books to the page we began in our previous lesson, Bread Experiment. Look closely at the two bags of bread, and record what you see.

Problem-Solving

STUDENTS DO: Record observations. This is an opportunity to practice the Life Skill: Problem-Solving.

TEACHER SAY: Thank you for recording your observations. What are some things you notice?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.

STUDENTS DO: Share observations with the class.

2. TEACHER SAY: We will continue to check our experiment each day. In our previous lesson, we discussed how learning about our world through science is similar and different from learning about our history. Who can summarize one similarity and one difference?

STUDENTS DO: Share ideas.

TEACHER SAY: Like our experiment, much of learning science involves directly observing the world around us. Since we cannot go back to directly observe much of history, learning about history is different. Learning science and history are similar because they both rely on evidence. What evidence did we use in the previous lesson to learn about medicine in ancient Egypt?

STUDENTS DO: Respond (a papyrus or ancient text).

TEACHER SAY: Yes, the Edwin Smith Papyrus is one way we know about the origins of medicine in Egypt. A text written in a certain time helps us learn about how people lived during that time. If we have multiple texts to read, we can get an even more complete picture. We call this cross-checking, when we look for agreement or disagreement between different sources. Let's

learn about another document from around the same time in history called the Ebers Papyrus. Open your student books to the page The Ebers Papyrus.

 **READ ALOUD:** Read the text, then compare this papyrus with the Edwin Smith Papyrus.

 **STUDENTS DO:** Read and write comparisons between the two papyri.

Note to Teacher: You may choose to read the text aloud based on the needs of your students.

Critical Thinking

TEACHER DO: Circulate around the room as students work and remind them to go back to the page on Imhotep for making comparisons. This is an opportunity for students to practice the Life Skill: Critical Thinking.

TEACHER SAY: What are some things that are similar in the two papyri? Different?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.

 **STUDENTS DO:** Share thoughts with the class.

TEACHER SAY: From these two documents we can learn that both authors wrote down procedures and recipes for medicines, and both shared what they knew with others. In some ways, these documents are also different. The Edwin Smith Papyrus describes surgical procedures and relies on science. The Ebers Papyrus focuses more on herbal cures and includes magic as well as science. In the previous lesson, we noted that Imhotep was unique in his time period for his approach to medicine. How does the Ebers Papyrus back up this idea?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: The magic that is mentioned in the Ebers Papyrus highlights the different, scientific approach of Imhotep. It is hard to make a broad claim from only two documents. If we had 20 documents that mention magic and only one that relies more heavily on science, we could better support the idea that Imhotep was different from others who lived at the same time. Look back through the texts about the papyri briefly. What else do we learn about ancient Egyptians from these descriptions?

 **STUDENTS DO:** Share ideas, referring to the text.

3. TEACHER SAY: In our first few lessons of this chapter, we began to identify different sources of information. What were some sources of advice that Rashad heard?

 **STUDENTS DO:** Share ideas from memory.

Note to the Teacher: This is an opportunity to reinforce the concept of source and ensure that students know the difference between the information itself (drink tea, take medicine) and the source (his grandmother, a commercial).

TEACHER SAY: Good job remembering and identifying examples of sources. What sources did we read about in the past two lessons to learn about medicine in ancient Egypt?

 **STUDENTS DO:** Respond (papyri).

TEACHER SAY: We also discussed the reliability of each source that gave Rashad advice. When we learn about history, it is important to identify the source of our information and consider how reliable it is. The Edwin Smith Papyrus and Ebers Papyrus are both what we call PRIMARY SOURCES. A primary source is an artifact from the timeline being studied, an eyewitness account, or material that is as close to the original source as possible. If we had these two papyri in our classroom and could read the ancient script, we could learn about Egyptians long ago from their own words. I wonder: If Imhotep were standing in our classroom, what would you ask him? Share ideas with a **Shoulder Partner**.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER SAY: A newspaper that publishes a story about a fire that a reporter saw is an example of a primary source. A podcast or interview with someone of interest is also a primary source for learning about that person. What are some other examples of a primary source?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas.

TEACHER SAY: Very good. When we use a cell phone or camera to take photographs, video, or audio recordings, the recordings capture things the way we see or hear them. Why do you think letters, journals, and scrapbooks are also examples of primary sources?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas.

TEACHER SAY: Why are speeches, published books, newspapers and magazine clippings published at the time, and government publications examples of primary sources?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas.

4. TEACHER SAY: Let's think a bit about the reliability of these different types of sources. Why might a photograph of an event be a more reliable primary source than a diary or journal?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas.

TEACHER SAY: Good thinking. The camera captures an image of what was actually happening. A person writing a journal or diary might write an opinion about what he or she saw. The person might misremember or exaggerate what happened. Just like when we watch advertisements and consider why they want to tell us information, we must carefully consider the reliability of a primary source. Earlier we talked about how two papyri give us a better picture of life around 1500-1700 BCE. What other sources do you think we could use to learn more or to verify what is in the papyri? How could science help? Share ideas with a **Shoulder Partner**.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas. (This is an opportunity to practice the Life Skill: Critical Thinking.)



5. TEACHER SAY: You have great ideas. Science has helped verify, or make sure, that ideas in the papyri are true. Scientists examined the mummified remains of ancient Egyptians using x-rays and other modern equipment and found direct evidence of the surgeries described in the papyri. Samples of bones, hair, and teeth indicate that some of the cures listed in the papyri were effective. Cross-checking a variety of sources can help us put together a strong, reliable picture of history. We learned a lot today. Let's create an image to represent papyri for our timeline. Open your student books to the page **Images for Timeline**.



STUDENTS DO: Create an image to represent the papyri.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we talked about primary sources. What is a primary source you have used to learn about something in your own history? Share with your **Shoulder Partner**.



STUDENTS DO: Share ideas with **Shoulder Partner**.

Lesson 5

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Recognize secondary sources.Use secondary sources to examine the history of medicine.Compare primary and secondary sources.	<ul style="list-style-type: none">Secondary source	<ul style="list-style-type: none">Student booksPencilsBellCrayons
	LIFE SKILLS	
	Learn to Work	
	Collaboration: <ul style="list-style-type: none">Respect for other opinions.	



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: Before we begin our lesson today, let's complete our observations of our investigation. Turn to the page Bread Experiment and record what you observe today.



STUDENTS DO: Record observations.

TEACHER SAY: Thank you for recording your observations. What are some things you noticed?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share thoughts with the class.

TEACHER SAY: In our previous lesson, we talked about primary sources. Let's practice identifying what would be considered a primary source. When I describe a source, show me **Thumbs Up** if you think it is a primary source, or show me a thumbs down if you think it is not a primary source.

- Reading a journal of someone who lived a long time ago. (primary)
- Reading a biography about a famous person. (secondary)
- Listening to an interview with someone who was at the World Cup game. (primary)
- A government document about the design of the High Aswan Dam. (primary)
- An encyclopedia article about giraffes. (secondary)

TEACHER DO: Make note of any sources students are unsure about.



STUDENTS DO: Thumbs Up or down to respond.

2. TEACHER SAY: How do primary sources help us learn about history? What kinds of evidence do they provide?



STUDENTS DO: Share ideas.

3. TEACHER SAY: There are other kinds of sources that can also help us learn about history. The sources you indicated with a thumbs down are what we call secondary sources. Secondary sources are anything that describes, interprets, evaluates, or analyzes information from primary sources. An example is the text you read about the Edwin Smith Papyrus. You did not get to look at the original papyrus directly. Instead, you read a description of it written by someone else. Can you think of another example of a secondary source?

 STUDENTS DO: Share ideas.

TEACHER SAY: Other examples include:

- Books, articles, and documentaries that combine information on topics
- Descriptions of artistic works
- Encyclopedias and textbooks that summarize information and ideas

A biography about a famous person written decades later is also a secondary source. Let's see if we can distinguish between primary and secondary sources. Open your student books to the page Primary and Secondary Sources.

 READ ALOUD: Circle the secondary sources.

 STUDENTS DO: Read the examples given and circle the secondary sources.

TEACHER DO: Circulate around the room as students work to assess understanding. After students share with partners, review the answers to confirm understanding.

TEACHER SAY: Well done. Please share your work with your Shoulder Partner.

 STUDENTS DO: Discuss answers with a Shoulder Partner.

4. TEACHER SAY: Great. Now that we understand about different sources of information, let's check in with Rashad and see how he is doing. Open your student books to the page Rashad's Dream.

 READ ALOUD: Read Rashad's story and record one reason why this place was so important.

Note to Teacher: You may choose to read the text aloud based on the needs of your students.

 STUDENTS DO: Read the story and assess why the library was an important place. Record one reason in the box provided.

5. TEACHER SAY: Let's use a new strategy called Pass the Knowledge. Pass your student book to the right. Read the explanation and then add a new idea. We will continue to pass the student book four times, then return the book to its original owner. Who can repeat those directions?

TEACHER DO: Call on one or two students with a hand raised.

 STUDENTS DO: Repeat directions to the class.

TEACHER SAY: Very good. When I ring the bell (or another Attention Getting Signal), please pass your book to the right. When I ring the bell again, please pass the book.

TEACHER DO: Facilitate Pass the Knowledge by ringing the bell to indicate when students should pass the book for four rounds total.

TEACHER SAY: Very good. Now that you have your own book back, please take a moment to read the ideas your classmates shared.

Collaboration

 STUDENTS DO: Read ideas from classmates. Ask for clarification as needed. (This is an opportunity to practice the Life Skill: Collaboration.)

TEACHER SAY: When I call your name, please share an idea about why the Great Library of Alexandria was important.

TEACHER DO: Use Calling Sticks to select a few students to respond.

 STUDENTS DO: Share thoughts with the class.

TEACHER SAY: In the story, Rashad mentions seeing people from "many different cultures." What do you think this means?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share thoughts with the class.

TEACHER SAY: The library at Alexandria became a meeting place for people from all over the world to learn, argue, and discuss ideas. Can you imagine having to travel across a sea and stay somewhere for years in order to study or access information about a specific topic? People today sometimes choose to travel for university, but in 200 BCE, there was no internet, and books were not published to be sent around the world. People in the region who wanted to study medicine and its history went to Alexandria. Where do you go when you want to study something?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share thoughts with the class.

TEACHER SAY: The Great Library of Alexandria no longer exists. It has not existed for more than 1,000 years. How do you think we know about it?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share thoughts with the class.

TEACHER SAY: Good thinking. Other people wrote about the library. One person, Galen, a famous Roman doctor, studied in Alexandria before practicing in Rome. He wrote about medicine and referred to what he learned in other documents at the library. His teachings and writings survived well into the 16th century, long after the library was gone. If we wanted to learn about the library, would Galen's writings be a primary or secondary source?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share thoughts with the class.

6. TEACHER SAY: Yes, his own writing would be a primary source, because he spent time at the library. Other people who wrote about Galen would be secondary sources. Let's create an image to represent the Great Library of Alexandria for our timeline. Open your student books to the page **Images for Timeline**.



STUDENTS DO: Create an image to represent the library.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we talked about secondary sources and the Great Library of Alexandria. Give your **Shoulder Partner** an example of one primary and one secondary source you have used.



STUDENTS DO: Share examples of primary and secondary sources with **Shoulder Partner**.

Lesson 6

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Compare past and present hospitals.• Identify contributions of modern-day Egyptian doctors.• Use questioning strategies to diagnose a problem.	<ul style="list-style-type: none">• Diagnose• Patient	<ul style="list-style-type: none">• Student books• Pencils• Poster• Marker• Scraps of cloth
PREPARATION	<p>LIFE SKILLS</p> <p>Learn to Live Together</p>	
Prepare a poster in advance with a Venn Diagram labeled, “Then,” “Both,” and “Now.” Gather images of x-rays if possible. Collect enough scraps of cloth for half of the class to have one scrap each.	<p>Empathy:</p> <ul style="list-style-type: none">• Demonstrate empathy in communicating with others.	



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we talked about primary and secondary sources and the importance of the Great Library of Alexandria. The library was a place to share learning. Why do you think it is important to share what you learn? Tell your **Shoulder Partner**.

TEACHER DO: Listen for student responses. Select two students to share answers out loud with the entire class.



STUDENTS DO: Share ideas.

2. **TEACHER DO:** Hand out student books.

TEACHER SAY: Open your student books to the page Bread Experiment.



READ ALOUD: Record your observations.



STUDENTS DO: Record observations.

TEACHER SAY: Thank you for recording your observations. What are some things you notice?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas.

TEACHER SAY: Remember our story about Rashad feeling sick? If Rashad was very, very sick and needed more care than his parents could give him, where could he go?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas.

TEACHER SAY: Correct. Rashad could go to a doctor or hospital. Has anyone ever been to a hospital? Who can describe one for us?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas.

3. TEACHER SAY: A hospital has many doctors, nurses, and other specialists who are trained to care for you. Hospitals also have machines and medicines that can help you. But hospitals did not always exist. Did you know that many aspects of modern hospitals trace their origins to Egypt? The earliest known hospitals in Egypt were found in Cairo in 872 CE and Al Mansuri in 1284 CE. Please open your student books to the page, Hospitals Then and Now. When we read this text, are we learning from a primary or secondary source? Why?



STUDENTS DO: Share ideas.

TEACHER DO: Read the text aloud, encouraging students to follow along and circle any unknown words.

TEACHER SAY: This text has lots of information for us. Let's talk about what we read so we can make sure we understand it. Remember to refer back to specific places in the text when you answer questions. How was building a hospital a new idea? What were some things they did that had not been done before?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas, referring to the text for support.

TEACHER DO: Continue asking questions about the content of the text, such as:

- How did the hospital help improve the abilities of doctors?
- What were some ways a hospital tried to prevent diseases from spreading? Why was this important?



STUDENTS DO: Share ideas, referring to the text for support.

4. TEACHER SAY: You have a strong understanding of the text. Let's compare and contrast the hospitals of the past and present by using a **Venn Diagram**. If you have been to a hospital, you can use the text and your experience to describe hospitals of the present.

TEACHER DO: Show students the poster you prepared and remind students that things that are in common go in the center circle labeled BOTH.

TEACHER SAY: How are hospitals of the past and hospitals today similar?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas.

TEACHER DO: Write student responses in the BOTH section of the **Venn Diagram**. Then ask the following two questions, recording student answers in the THEN and NOW sections respectively.

- What are some things that are true only in hospitals of the past?
- What are some things that are true only in hospitals of today?

TEACHER SAY: We can see that the origin of hospitals has influenced hospitals today. We are grateful for the contributions of past Egyptians. There are also Egyptians today who continue to make significant contributions to medicine. Has anyone heard of Magdi Yacoub or Nagwa Abd el Meguin?



STUDENTS DO: Respond.

TEACHER SAY: Magdi Yacoub is known for his study of the heart. He has won many awards, including the World Health Organization Prize for Humanitarian Service and the Order of the Nile for science and humanity. Nagwa Abd el Meguin studies heredity and how traits are passed from parent to child.

She was the 2002 winner of the L'Oréal UNESCO Award for Women in Science for Africa and the Middle East.

Raise your hand if you think you might be interested in a career in medicine one day.



STUDENTS DO: Raise hands if interested in a medical career.

5. TEACHER SAY: If you want to be a doctor or work with patients, you will need to know how to ask good questions to diagnose illnesses and injuries. Let's think of good questions a doctor could ask to help gather important information about a patient. Do you think a question like, "Are you okay?" is a good question to help learn about what is wrong? Why? What might be a better question?

TEACHER DO: Pause to allow students **Think Time** before calling on volunteers to share responses.



STUDENT DO: Improve on the question, "Are you okay?"

TEACHER SAY: Yes, [give examples that students shared] are all good examples of questions a doctor could ask. Let's think of some more. We will list them together so we can remember. Who else can think of a question that would help a doctor gather information about the patient?



STUDENTS DO: Share answers.

TEACHER DO: Consider having students share question ideas with a **Shoulder Partner** before gathering questions as a class. When sharing as a class, record questions somewhere that everyone can see for the next learning experience. Questions may include:

- How are you feeling?
- What part of your body is bothering you?
- Did you have an accident or injure a part of your body?
- How long has _____ been bothering you?
- How much/how often does it hurt?
- What treatments have you tried already?

6. TEACHER SAY: Great job thinking of questions. Now let's **Role Play** and practice using these questions. You will work with a partner. One person will be the doctor and one person will be the patient. Then we will switch roles for the second round. Find a partner and establish roles.



STUDENTS DO: Find partners and decide who will play which role to start.

TEACHER SAY: The patient will think of an ailment or injury. The doctor will ask questions to determine what is wrong, recording notes on the page Patient and Doctor. Remember to be kind to your patient. No one likes being sick or injured. When the doctors determine the area needing treatment and the severity, they will tie the cloth around the affected area. They will then decide whether to send the patient back home—to their seat—or to the hospital for follow up.

TEACHER DO: Designate an area of the room that will be considered the hospital and announce it to the class. Distribute one strip of cloth to each pair. Support students as needed, reminding them to care for the patient in addition to identifying what is wrong. You may wish to **Role Play** with one student in front of the entire class to model the expected behavior and style of questioning.



Empathy



STUDENTS DO: Ask and answer questions while role playing doctor and patient. (This is an opportunity to practice the Life Skill: Empathy.)

TEACHER DO: When each pair is finished, have partners switch roles and repeat the **Role Play**. If time allows, facilitate discussion on how well the questions worked, how the patients felt, and so on.

7. TEACHER SAY: Well done. Learning to ask good questions is important in many jobs. What other jobs do you think require asking a lot of questions?



STUDENTS DO: Share ideas.

TEACHER SAY: You worked hard today and collaborated well in your **Role Play**. Let's create an image of a hospital for our timeline. Open your student books to the page **Images for Timeline**.



STUDENTS DO: Create images to represent hospitals.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we talked about the origins of modern hospitals. If you have been to a hospital, share your experience with your **Shoulder Partner**. Join another set of **Shoulder Partners** if you and your partner have not been to a hospital.



STUDENTS DO: Share hospital experiences with **Shoulder Partner**.

Lesson 7

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Research tools used in medicine.• Compare past and present tools used in medicine.• Compare timelines of medical history.	<ul style="list-style-type: none">• Archeologist	<ul style="list-style-type: none">• Student books• Pencils• Scissors• Tape• String or yarn
PREPARATION		LIFE SKILLS
<p>If possible, invite a local medical professional to share how he or she learned medicine, where he or she works, where he or she gets new information, the process of treating patients, and so on.</p> <p>For each row of students, prepare a timeline using string and cards representing time periods and attach the timelines to the walls where students can easily place their images. Depending on how many timelines are available, determine a method for grouping pictures from multiple students at each point on the timeline, such as gluing the images to cardstock.</p>		<p>Learn to Work</p> <p>Decision-Making:</p> <ul style="list-style-type: none">• Identify results and expected results.



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: Let's begin our day by recording our final observations in our experiment. Open your student books to the page Bread Experiment.

STUDENTS DO: Record observations.

TEACHER SAY: Thank you for recording your observations. What are some things you notice?

Decision-Making

TEACHER DO: Use **Calling Sticks** to select a few students to respond. Extend the conversation to facilitate student analysis of the experiment, including emphasizing the importance of washing hands. Connect the evidence observed in this experiment back to the original purpose of demonstrating that we learn about science and health through evidence. This is an opportunity for students to practice the Life Skill: Decision-Making.

STUDENTS DO: Share observations.

Note to Teacher: At this point, mold should be growing on both pieces of bread. Be sure the bags stay closed. Call students' attention to the fact that the bread in the "Cleaned Hands" bag is also moldy and ask for ideas about why that is.

TEACHER SAY: Today we are going to learn about another area of medicine that has some origins in Egypt long ago. Before we encounter a new topic, who can summarize one Egyptian contribution we discussed so far in this chapter?

STUDENTS DO: Share ideas, including origins of a doctor's process, sharing knowledge, and some aspects of modern-day hospitals.

TEACHER SAY: Another area of medicine that has some origins in Egypt is the use of tools.

Doctors use many tools. What tools can you think of that a doctor might use?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas.

2. TEACHER SAY: Very good. In our story about Rashad, his mother uses a thermometer to take his temperature. A higher than normal body temperature may be a sign of an infection. A thermometer is an important tool used in medicine. When you visit a doctor, one of the first things he or she may do is take your temperature.

The oldest metal surgical tools in the world were discovered in the tomb of Qar. Qar was a doctor during the Sixth Dynasty of Egypt, which lasted from about 2350 to 2180 BCE. These tools are now preserved in the Imhotep museum in Saqqara. Would these tools be considered primary or secondary sources for learning about history?



STUDENTS DO: Share ideas.

TEACHER SAY: The tools are primary sources. Tools such as forceps (like tweezers), saws, needles, hooks, drill, spoons, graduated cubit (measuring tool), and knives were used in many procedures. Many tools like these are still used today. Open your student books to the page Medical Tools. Let's look at some tools of the past and the present. You may be surprised to learn that some tools have not changed very much.



READ ALOUD: Look at the tools. Circle past or present and write how you think the tool is used.



STUDENTS DO: Complete the student page.

TEACHER DO: As students work, circulate around the room to answer questions.

TEACHER SAY: In your rows, get together and discuss your answers. Listen to other points of view and explain your thinking process.



STUDENTS DO: Discuss responses to medical tool images.

TEACHER SAY: Some of these tools were found by archeologists. Has anyone heard this word before? Can anyone guess what an archeologist does?



STUDENTS DO: Share ideas.

TEACHER SAY: Archeologists are people who study the past using artifacts. They often discover the artifacts by carefully examining places that people long ago used to live. When archeologists discover tools like those found in the tomb of Qar, they must use facts when available and sometimes their imaginations to determine their use. The tools pictured in your student book are as follows:

1. (Past) Surgical tool: no mention of how it was used.
2. (Present) Stethoscope: used to listen to your heart and lungs.
3. (Past) Tool used to make pills.
4. (Present) Blood pressure cuff: used to measure how hard your heart is pumping.
5. (Past) Saws: used for surgery.
6. (Present) Thermometer: used to take your temperature.
7. (Present) Syringe and ampoule: used to give shots.
8. (Present) X-ray image: used to look at bones inside the body.
9. (Present) Otoscope: used to look into ears.

As we learn more about science and technology, we are able to improve tools like these. We have taken tools used by ancient Egyptians thousands of years ago and improved them. What tools do you think we could have in the future?

TEACHER DO: Use **Calling Sticks** to select a few students to respond.



STUDENTS DO: Share ideas.

3. TEACHER SAY: Those are some creative ideas. Perhaps one of you will one day create a new medical tool to help people. Let's open your student books to the page Images for Timeline.



STUDENTS DO: Create images to represent medical tools.

Note to Teacher: If possible, have an invited medical professional share about how he or she learned medicine, where he or she works, where he or she gets new information, the process of treating patients, and so on.

TEACHER SAY: Now it is time to put our images on the timeline of medical history. Please cut out your images carefully.



STUDENTS DO: Cut out images for timeline.

TEACHER SAY: There is a string timeline for each row. I placed time periods on each string. As you finish cutting, please place your images in the correct place along the timeline.



STUDENTS DO: Place images on the timelines.

TEACHER DO: As students work, circulate around the room and ensure that students are placing their images in the correct location.

4. TEACHER SAY: Well done. Let's take a quick **Gallery Walk** around the room to see everyone's timelines.



STUDENTS DO: Walk around room to compare timelines.

Note to Teacher: If time allows, you may choose to extend this lesson by creating a web of jobs associated with medicine. Include all the professions that touch on and support medicine such as doctors, nurses, technicians, chefs, sanitation, engineers who build the machines used, construction workers to build hospitals, accountants, paramedics, ambulance drivers, industrial supply companies, and so on.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we talked about medical tools. Which tool did you find the most interesting? Why? Share with your **Shoulder Partner**.



STUDENTS DO: Share thoughts about medical tools with **Shoulder Partner**.

Lesson 8

Overview

LEARNING OUTCOMES	MATERIALS	LIFE SKILLS
<p>Students will:</p> <ul style="list-style-type: none">Identify traits of characters in a fictional story.Explain how the setting impacts the story.Identify possible solutions to a problem in a story.	<ul style="list-style-type: none">Student booksPencils	<p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">Explain thinking processes.
PREPARATION		
<p>Create a poster of the graphic organizer found on the page titled Story Elements in the student book.</p>		



Share (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In this chapter, we are studying the origins of medicine in Egypt. Before we return to our story about Rashad and begin our Share Project, let's review. Turn to the page 3-2-1 in your student books.



READ ALOUD: Complete the organizer to communicate your learning.

TEACHER DO: Review the organizer as a whole class. Students will write three new ideas they learned, two ideas they found interesting, and one question they still have.



STUDENTS DO: Complete the 3-2-1 organizer.

TEACHER SAY: Great job summarizing what you learned so far. Turn and share your writing with a **Shoulder Partner**. Did you learn the same things or something different?



STUDENTS DO: Share with **Shoulder Partner**.

2. **TEACHER SAY:** For our Share Project, you will be working independently to write the fourth chapter of the "Rashad is Sick" story. Before we begin, let's go over our My Self-Assessment. There is a word in the Academic Content category that we need to discuss. It is "temporal." Temporal means related to time. In this case, we will focus on how we can use words like "first," "then," "next," and so on to help communicate the sequence of events that happen to Rashad.

TEACHER DO: Review the My Self-Assessment page as a whole class. You may wish to give additional examples for the academic content section in addition to the explanation above.

TEACHER SAY: We are ready to return to our Rashad story. Turn back to the first chapter of the story. I am going to give the class time to quietly reread the first three chapters. In order to write a new chapter that fits well with the first three, we need to pay careful attention to the main elements of the story. What parts of the narrative do you think are important to our story?



STUDENTS DO: Share ideas, such as the characters, setting, and so on.

TEACHER SAY: As you read, you will be filling out the graphic organizer on the page Story Elements. The organizer will help you recall important details of the story that you will use when you begin writing the fourth chapter.



READ ALOUD: As you reread the story, “Rashad is Sick,” complete the organizer.

TEACHER DO: Arrange students into small groups to reread and complete the graphic organizer.



STUDENTS DO: Reread the story and complete the organizer.

TEACHER SAY: Thank you for taking time to review the story. Let’s discuss what we thought was important in the narrative. This way we can check the responses in our organizer and learn from each other’s answers.

TEACHER DO: Use **Calling Sticks** and record student answers on the class organizer.

3. TEACHER SAY: Let’s focus on the section of our organizer that tells the possible solutions to Rashad’s problem.

- Warm drink
- Cold towel
- Medicine from the pharmacy
- Carrots
- Treatment from online
- Doctor’s visit

In this chapter, we learned about fact, fiction, opinion, primary sources, and secondary sources of information. Are there any primary sources in our list? What about secondary sources? Which source do you believe is the most reliable? Which solution do you think would be the best choice for Rashad?

Note to Teacher: Not all advice can be classified into primary or secondary sources.

TEACHER DO: Call on students to answer the questions one at a time and engage in a discussion about the source of each possible solution to Rashad’s problem. A treatment Rashad’s mom reads about online would be from a secondary source. A doctor visit and information from the doctor would be a primary source. Engage students in explaining which source of information would be best when determining how to treat Rashad. Use this discussion to encourage students to make connections back to what they learned about primary sources from Ancient Egypt on treating patients. Ask which of the sources of information Rashad is being given would most closely follow a scientific process for treating an illness. Students should conclude that a doctor’s visit would be the best choice to treat Rashad’s illness. This is an opportunity for students to practice the Life Skill: Critical Thinking.



4. TEACHER SAY: You will write the fourth chapter of the story to show which solution Rashad chooses, why he chooses it, and how well it works. Does he choose the solution we agree is best, or does he choose another treatment first? Turn to the page Story Planning.



READ ALOUD: Fill in your story ideas.

TEACHER SAY: Let’s look at this planning page before we begin to work on our own. What story elements do you see on this organizer?



STUDENTS DO: Name story elements from the organizer.

TEACHER SAY: You will start planning the characters and setting. What characters will you write about in the fourth chapter? Where will the story take place? Will the setting change during the story?



STUDENTS DO: Plan characters and setting for new chapter.

TEACHER DO: After students identify the characters and setting, guide a discussion on what students already know about the characters and how each should behave in the final chapter. Discuss what the characters might talk about in the chapter. Use these questions to help guide the discussion:

- How will the characters act or behave? How did the characters behave earlier in the story?
- What will the characters say to each other?
- How can we use what we learned in this chapter to add interesting facts to the dialogue?

As you ask each question, pause to give students time to think and then share ideas with a **Shoulder Partner**. Students can reference their graphic organizer about the story from the beginning of the chapter to help generate ideas about possible character interactions and behaviors. (For example, Rashad might complain about leaving the house and the dad might be the character taking him to the doctor.) After students share with a **Shoulder Partner**, use **Calling Sticks** to have multiple students share possible story ideas.

TEACHER SAY: Great. You have ideas about the characters and setting. First you thought about what the characters will be doing. Next you will plan how to tell the story in the order it happens. Remember when we wrote our plays in the last chapter, we used the words FIRST, THEN, NEXT, and FINALLY to help us sequence our events. We will do the same as we write this fourth chapter. The next four boxes on your organizer say FIRST, THEN, NEXT, and FINALLY. Think through the events in your chapter. You may choose to draw pictures and write notes about what will be happening.



STUDENTS DO: Plan plot and events of the story.

TEACHER DO: Circulate around the room to support students as needed. Ask guiding questions. You may use the questions from the discussion to help students think through story ideas.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we thought about how we can apply what we learned during this chapter to finish writing the story, “Rashad is Sick.” Turn to a **Shoulder Partner** and share your story outline.



STUDENTS DO: Share outlines.

Lesson 9

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Solicit feedback from peers to strengthen story ideas.Write and illustrate the final chapter of a story.	<ul style="list-style-type: none">Feedback	<ul style="list-style-type: none">Student booksPencilsScissors
	LIFE SKILLS	



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we planned the final chapter for the Rashad story. Turn to a **Shoulder Partner** and share how you plan to end the story. What will happen to Rashad?

STUDENTS DO: Share story endings with **Shoulder Partner**.

TEACHER SAY: Thank you for sharing and thinking about your story plan. Today you will get feedback from your peers on your story plan and use that feedback to improve your story. Then, you will write and illustrate your Rashad story.

2. TEACHER DO: Put students into groups of four or five. If possible, do not exceed five students per group to allow this initial sharing to be finished in a shorter amount of time. Hand out student books.

TEACHER SAY: We will start by sharing our story outlines. It is important that we get feedback from our peers on our ideas. Our peers can ask questions to help us think of new details we could add or help us identify a part of our story we need to make easier to understand. How else can peer feedback help us?

STUDENTS DO: Share ideas.

TEACHER SAY: In your groups, you will orally share your story outlines one at a time. After each student shares, the other students in the group will each provide one compliment and write one question about the outline. For example, someone might ask, "What question did the doctor ask Rashad?" or "How is Rashad feeling at the doctor's office?" Repeat the process until everyone in your group has shared. Once you are finished, cut out each row and distribute the compliments and questions to each author. Who can explain the directions again?

STUDENTS DO: Clarify the directions to the class.

TEACHER SAY: Great. You will need to read from the page Story Planning. You will write and cut out the questions on the page Peer Feedback. The person whose birthday is closest to today will share first. Then the person to his or her right will share next.

 Accountability

READ ALOUD: Record one compliment and one question for each group member. Cut out each row to give to the authors.



STUDENTS DO: Share and provide feedback in small groups.

TEACHER DO: Support students as they share. Listen to the feedback and questions they are asking. Prompt questioning if necessary. This is an opportunity for students to practice the Life Skill: Accountability.

TEACHER SAY: Thank you for sharing and providing thoughtful feedback. Now that you have questions from your peers, it is important to take time to consider how these questions can help you add a new detail or change a part of your story. Take a moment to read each question and think about how to improve your story.

TEACHER DO: Provide **Think Time**.



STUDENTS DO: Answer questions from peers.

TEACHER SAY: Let's encourage each other by sharing how you plan to use feedback to improve your story. Who can share how a question from a peer will help add a new detail or change something in your story?

TEACHER DO: Depending on time available, select four or five volunteers or allow students to first share with a **Shoulder Partner** then use **Calling Sticks** to have several students share with the class.

3. TEACHER SAY: You worked hard to plan and improve your stories. You are ready to write the fourth chapter of the Rashad story. Open your books to the page Rashad is Sick: Chapter 4.



READ ALOUD: On the next four pages, illustrate and write the ending to the Rashad story. Use your story planning to support your writing.

TEACHER SAY: You have four pages to write your story. These pages correspond to the four boxes on your story planning page: First, Then, Next, and Finally. The rest of our time today will be spent illustrating and writing the fourth chapter of the story, "Rashad is Sick."



STUDENTS DO: Write and illustrate stories.

 Communication

TEACHER DO: Support students as necessary. This is an opportunity for students to practice the Life Skill: Communication.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we provided feedback to our peers on their story ideas. Then we used that feedback to write and illustrate our story. As we finish our stories, let's give a title to our final chapter. Chapter 1 was called "Warm Tea" because Grandma suggested a warm drink. Chapter 2 was called "The Commercial" because Rashad saw a medicine commercial on TV. Chapter 3 was called "Carrots?" because Yasmeen had a suggestion from a story book. What will you title chapter 4? Write your title at the top of the page.



STUDENTS DO: Write a chapter title.

TEACHER SAY: Turn and share your title with a **Shoulder Partner**. Tell your partner why you chose that title.



STUDENTS DO: Share with **Shoulder Partner**.

Lesson 10

Overview

LEARNING OUTCOMES	MATERIALS	LIFE SKILLS
<p>Students will:</p> <ul style="list-style-type: none">Share final stories with peers.Create a cover for the book.	<ul style="list-style-type: none">Blank white paper (one for each student)ScissorsStaplerStudent booksPencils	<p>Learn to Live Together</p> <p>Empathy:</p> <ul style="list-style-type: none">Demonstrate empathy in communicating with others.
<p>PREPARATION</p> <p>Decorate four chairs in the room and designate each of them as an “Author’s Chair.” Decorating can be as simple as creating a decorative sign to be hung on the chair.</p>		



Share (90 minutes)

Directions

- 1. Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today’s lesson.

TEACHER SAY: In the previous lesson, we wrote the fourth chapter for our story, “Rashad is Sick.” We ended our class by writing a title for our chapter. We shared that title with a partner. Let’s now share our titles with the whole class. We will Popcorn around the room.

TEACHER DO: Name a student to begin sharing chapter titles.

 **STUDENTS DO:** Share chapter titles.

- 2. TEACHER DO:** Hand out student books and one white piece of paper to each student. Provide crayons, colored pencils, or markers for students.

Note to Teacher: Students may create and print digital covers if computers and software are available.

TEACHER SAY: Today we will assemble and produce covers for our book. Then we will share our stories in small groups. Let’s start by creating covers for our story, “Rashad is Sick.” What do we need to include on the cover of a book?

 **STUDENTS DO:** Identify parts of the book cover.

TEACHER SAY: We need to include the title, author’s name, and an engaging picture to capture the reader’s attention. The picture should also be connected to what is happening in the story. What type of picture could you draw on your book cover to preview something that will happen in the story? Turn and share some ideas with a **Shoulder Partner**.

 **STUDENTS DO:** Share ideas with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to have students share ideas as a whole class.

TEACHER SAY: Great. We will begin our day by designing the cover for our book.

 **STUDENTS DO:** Create covers.

TEACHER DO: Provide a limited amount of time, perhaps no more than 15 minutes, for students to design covers. As they finish, direct students to cut out all four chapters of the story. This will be a

total of eight pages, including the cover. **Model** how students will put the pages in order and add the cover to the front. Staple the book together for each student.



STUDENTS DO: Assemble the eight pages of the book.

3. TEACHER SAY: I like how each cover looks different. I am interested now to hear how each of you ended your story. I am sure you are interested in hearing how others wrote the fourth chapter of the story. Let's break into four groups. Each person in the group will have a turn to sit in the special "Author's Chair" and read their fourth chapter to the group. After each person shares, he or she will call on three others to provide positive feedback, or a compliment, on the story.

TEACHER DO: Divide the class and set up groups near each "Author's Chair." Consider giving each student in the group a number to easily determine the order for sharing.

TEACHER SAY: Before we begin to share, I will read out loud the first three chapters of the story. Please follow along in your own books.

TEACHER DO: Read aloud chapters 1-3 from the story, "Rashad is Sick."



STUDENTS DO: Follow along as the teacher reads.

TEACHER SAY: Now, let's hear the unique endings each of you wrote. You may begin sharing. Remember to politely listen as each person shares. What do you think polite listening looks like?



STUDENTS DO: Share and **Model** polite listening.

TEACHER SAY: Polite listening means you have your eyes on the reader, your hands are still, your voices are off, and your brain is thinking about what the reader is saying. You are not playing with your own book and you are not talking to your neighbor. Everyone should be ready to provide positive feedback.



STUDENTS DO: Politely listen and provide feedback on fourth chapters.



Empathy

TEACHER DO: Monitor student sharing. **Model** providing feedback when appropriate. This is an opportunity for students to practice the Life Skill: Empathy.

4. TEACHER DO: Bring the class back together. You may choose to leave the student books in the classroom for further reading later in the year or allow students to take home their books.

TEACHER SAY: Thank you all for working so hard on your story. Let's complete our My Self-Assessment page.



STUDENTS DO: Complete the self-assessment.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we finished our story about how Rashad should treat his illness. We used what we learned about how medical treatment has developed over time to help Rashad make the best decision. Who would you want to treat you if you were sick like Rashad? Where do you think you would go? Turn and share with a **Shoulder Partner**.

Rubric Assessment (for teacher use)

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Uses a graphic organizer to plan a narrative with help from peers or the teacher. <i>Writing D.1.a.</i>	Uses a graphic organizer effectively to plan a narrative. <i>Writing D.1.a.</i>	Uses a graphic organizer effectively to plan a narrative. Assists peers in this work. <i>Writing D.1.a.</i>
	Uses temporal words when detailing the sequence of events in a narrative with help from peers or the teacher. <i>Writing B.1.d.</i>	Uses a few temporal words when detailing the sequence of events in a narrative. <i>Writing B.1.d.</i>	Uses temporal words consistently and accurately when detailing the sequence of events in a narrative. <i>Writing B.1.d.</i>
	Creates questions for peers to aid in improving others' narratives with help from peers or the teacher. <i>Writing D.1.b.</i>	Creates questions for peers to aid in improving others' narratives. <i>Writing D.1.b.</i>	Creates thoughtful questions for peers to aid in improving others' narratives. Assists peers in this work. <i>Writing D.1.b.</i>
	Shares minimal knowledge about medicine and treatment in the narrative. <i>Science A.1.d.</i>	Shares knowledge about medicine and treatment in the narrative. <i>Science A.1.d.</i>	Shares interesting, relevant knowledge about medicine and treatment in the narrative in a creative way. <i>Science A.1.d.</i>
Quality of Performance	Improves writing based on feedback from peers with help from peers or the teacher.	Improves writing based on feedback from peers.	Builds on feedback from peers to further improve writing.
	Listens as peers share their narratives but has difficulty being attentive and/or polite.	Listens attentively and politely as peers share their narratives.	Listens attentively and politely as peers share their narratives. Serves as a role model for peers in this area.
Life Skills	Has difficulty engaging in appropriate discussion with peers while sharing ideas and writing. <i>Communication</i>	Engages in appropriate discussion with peers while sharing ideas and writing. <i>Communication</i>	Engages in thoughtful discussion with peers while sharing ideas and writing. Takes on a leadership role and helps organize the team in this work. <i>Communication</i>
	Incorporates empathy into feedback for peers or the story dialogue with help from peers or the teacher. <i>Empathy</i>	Incorporates empathy into feedback for peers and the story dialogue. <i>Empathy</i>	Incorporates empathy appropriately and effectively into feedback for peers and creatively into the story dialogue. <i>Empathy</i>

PRIMARY 3

Multidisciplinary

COMMUNICATION

CONNECTIONS

Chapter 1: Connecting Forces

Chapter Overview

Connecting Forces

COMPONENT	DESCRIPTION	LESSONS
 Discover	Students explore the concepts of force and motion and discover the connections between them. Through active learning experiences, students build upon communication skills to identify force and motion around them.	2
 Learn	Students learn how analyzing patterns in data can help to make predictions about motion. Students explore the effect magnets have on various materials, including other magnets. Students explore the existence of magnetic fields by using evidence.	5
 Share	Students use the engineering design process and growing knowledge of forces, motion, and magnets to create a tool for the field of agriculture. Students redesign the product using peer feedback to make changes. Students self-assess progress.	3

Connection to Issues



Citizenship: We belong. We are part of a human family. We all have needs and we all have responsibilities.

Globalization: Technology helps us and has changed over time. We have a special culture in Egypt around water.



Life Skills Addressed

DIMENSION	DESCRIPTION
Learn to Know	<p>Critical Thinking:</p> <ul style="list-style-type: none"> Explain thinking processes.
Learn to Work	<p>Collaboration:</p> <ul style="list-style-type: none"> Respect for other opinions. <p>Productivity:</p> <ul style="list-style-type: none"> Create a list of tasks to be accomplished, including setting alternative plans.
Learn to Live Together	<p>Sharing:</p> <ul style="list-style-type: none"> Effective management and organization of tasks. <p>Respect for Diversity:</p> <ul style="list-style-type: none"> Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.
Learn to Be	<p>Self-Management:</p> <ul style="list-style-type: none"> Review progress in realizing goals. <p>Accountability:</p> <ul style="list-style-type: none"> Provide effective feedback. <p>Communication:</p> <ul style="list-style-type: none"> Reading, writing, non-verbal communication skills.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

A. Reading Foundational Skills: Print Concepts

- 1.b. Read and utilize the contents of images, titles, headings, and headlines to predict content of text.

D. Reading Skills: Fluency

- 1.a. Read texts at grade-appropriate difficulty with a level of accuracy and fluency to support understanding.
1.b. Read to express the meaning and style of a text (interrogative, exclamatory, or imperative).
1.c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

E. Reading Comprehension: Literature

- 1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
4.b. Identify the main ideas and sub-ideas in a paragraph.

F. Reading Comprehension: Informational Text

- 1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
4.a. Ask and answer questions to define the meaning of academic and subject-specific words and phrases.
5.b. Use visual representations and information contained in a text to describe its basic ideas.

G. Language: Vocabulary Acquisition and Usage

- 1.a. Infer the meaning of unknown and multiple-meaning words using a variety of strategies (such as context and synonyms).

WRITING:

A. Foundational Skills

- 1.a. Write complete sentences using punctuation, prepositions, and coordinating conjunctions (such as ﻃ, ﻦ, و) as appropriate.

B. Narrative

- 1.b. Write a short descriptive paragraph to introduce a situation, narrator, and/or characters.
1.c. Use dialogue and descriptions of actions, thoughts, and feelings to express experiences and events or show the response of characters to situations

SPEAKING AND LISTENING:

A. Foundational Skills

- 1.a. Engage effectively in a range of collaborative discussions with peers and adults in small and larger groups.
1.b. Follow agreed-upon rules for discussions.
1.c. Listen to the speaker with interest and attention until the end of the statement or story.
1.e. Listen to speakers in order to make connections; comprehend; and gain, clarify, or deepen understanding of a topic or issue.

- 1.f. Build on others' ideas in discussion and express own ideas clearly.

- 2.a. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details.

MATH:

B. Operations and Algebraic Thinking

- 1.d. Use strategies to solve multiplication and division problems, including:

- 1) Manipulatives
- 2) Drawings
- 3) Arrays
- 4) The relationship between multiplication and division

C. Numbers and Operations in Base Ten

- 1.c. Identify arithmetic patterns, including those in addition and multiplication fact families.

D. Measurement

- 1.a. Select appropriate tools and measure objects in millimeters, centimeters, or meters.

SCIENCE:

A. Skills and Processes

- 1.c. Represent data in tables to reveal patterns.
1.d. Construct an explanation with evidence (such as observations, patterns) and/or data.
1.e. Describe relationships between two objects.
1.f. Listen actively to arguments and indicate agreement or disagreement based on evidence.
1.g. Communicate information with others in oral and written forms.

D. Physical Science

- 1.a. Test the properties of various materials.
1.b. Analyze the suitability of various materials for an intended purpose.
1.c. Observe that some objects are made of smaller parts that can be deconstructed and reconstructed into new objects.
1.d. Describe the effects of forces on the motion of an object.
1.e. Analyze patterns in an object's motion to predict future motion.
1.f. Describe the effects of magnets on a variety of materials.
1.g. Describe the effects of magnets on each other.
1.h. Describe the existence of magnetic force using evidence (such as push or pull without direct contact).

F. Engineering Design and Process

- 1.d. Explain the importance of engineering design, with support.
1.e. Apply the design process, with modeling and support.

SOCIAL STUDIES:

D. Human Systems

- 1.b.** Explain why people must make economic choices.
- 1.c.** Demonstrate how people use saving, spending, and budgeting to meet short-term economic goals.

VOCATIONAL FIELDS:

A. Career Social Skills and Preparation

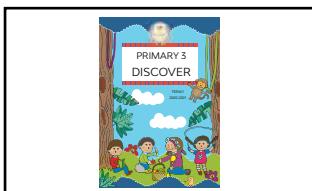
- 1.a.** Identify and demonstrate good interpersonal skills at school and home (including in different vocational activities).
- 1.b.** Work cooperatively with a group of students to accomplish a task (including tasks related to vocations).
- 4.b.** Design and create simple products for agricultural and industrial fields.
- 4.d.** Advocate for the importance of vocational safety (in industrial, agricultural, commercial, hotel, and tourism fields).

Pacing Guide

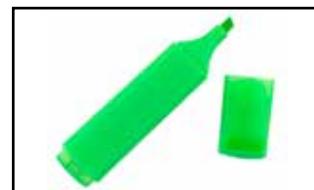
LESSON	INSTRUCTIONAL FOCUS
1	DISCOVER: Students will: <ul style="list-style-type: none">Observe motion in the classroom.Identify forces that cause motion.Collaborate to draw conclusions.
2	DISCOVER: Students will: <ul style="list-style-type: none">Observe how a contact force can start, stop, or change the direction of an object's motion.Skim text to identify unknown words.Use context to help define unknown words.
3	LEARN: Students will: <ul style="list-style-type: none">Analyze data to identify patterns.Use patterns in data to predict future motion of an object.
4	LEARN: Students will: <ul style="list-style-type: none">Describe the effect magnets have on a variety of materials.Record observed properties of various materials.
5	LEARN: Students will: <ul style="list-style-type: none">Describe the effects of magnets on each other.Identify the north and south pole of a magnet.
6	LEARN: Students will: <ul style="list-style-type: none">Collaborate with peers to complete hands-on investigations.Use observed evidence to describe a magnetic field.Use academic words to communicate observations.
7	LEARN: Students will: <ul style="list-style-type: none">Deconstruct an object with multiple parts to examine how the parts work together.Collaborate to reconstruct the parts into a new object.
8	SHARE: Students will: <ul style="list-style-type: none">Explain why the cost of a product might be important to a farmer.Design and create simple products for a farm.Review and use the engineering design process.
9	SHARE: Students will: <ul style="list-style-type: none">Use self-management skills to complete a task.Collaborate to build a model of a product.Give effective feedback to improve a peer's model.
10	SHARE: Students will: <ul style="list-style-type: none">Use feedback to redesign a product.Determine design costs for the farmer.Self-assess progress in learning.

Materials Used

Student book



Pencils



Lesson 1

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Observe motion in the classroom.• Identify forces that cause motion.• Collaborate to draw conclusions.	<ul style="list-style-type: none">• Force• Motion• Pull• Push	<ul style="list-style-type: none">• Student books• Pencils• Supplies for scavenger hunt (optional, see Preparation)• Any size ball for demonstration
PREPARATION	LIFE SKILLS	
<p>Students will go on a scavenger hunt to observe motion during today's lesson. If possible, take students outside for the scavenger hunt. Supply balls and other sports equipment for exploration if possible. If the scavenger hunt will be held in the classroom, make available items that can be easily moved around.</p>	<p>Learn to Work</p> <p>Collaboration:</p> <ul style="list-style-type: none">• Respect for other opinions.	



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: In our last theme, we learned about origins. What are some things that surprised you in your learning?

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing. Make suggestions as needed to further the conversation.

TEACHER SAY: Today we are beginning a new theme. It is about connections. Talk to your **Shoulder Partner**. What are some ways we have made connections in our class?

STUDENTS DO: Share with partner.

TEACHER DO: Monitor discussions and prepare to write group responses on the board.

TEACHER SAY: I enjoy hearing your ideas. Let's share some of them with the whole group. I will write your ideas on the board. Maybe what you hear will help you think of other ways we make connections.

TEACHER DO: Popcorn around the room until you have a variety of responses. Remind students of connections such as how the stories we read sometimes connect to our own lives, how working together helps us connect to each other, and how reading and mathematics instruction connect to the real world.

STUDENTS DO: Recall and share connections.

2. TEACHER SAY: As we finish the school year, in our last theme we will be learning about lots

of different kinds of connections. The title for our first chapter is “Connecting Forces.” Think about what you already know about forces and consider what we might learn in this chapter.

TEACHER DO: Write the title on the board. Allow **Think Time**, then invite students to talk within small groups as they are seated in the classroom. Monitor discussions and begin writing ideas that you hear on the board.



STUDENTS DO: Share in small groups.

TEACHER SAY: I noticed respectful listening in your discussions. Thank you for communicating your ideas so well. In Primary 1, you learned about two concepts: force and motion. What do you remember about force and motion?

Note to Teacher: This is an opportunity for you to assess students' prior knowledge of force and motion. Even if students do not refer to force and motion in small group discussions, add it to your list on the board to trigger responses.

TEACHER DO: After students have responded, look around the room and point to one example of a (non-human) object in motion. Examples might be a curtain moving or a pencil being pushed across a desk.

TEACHER SAY: Did you see that? There is motion all around us. Would one of you please go show the class what I am pointing toward? I wonder why it is moving.

TEACHER DO: Choose a student to go to the motion and describe it to the class.

TEACHER SAY: Can you tell us what caused the motion?

TEACHER DO: Guide the student to explain the cause of the motion. If the student is unable to explain, ask other students in the class to help.



STUDENTS DO: Determine the cause of the motion.

TEACHER SAY: We have talked about cause and effect many times in class. If _____ is the cause, what is the effect?



STUDENTS DO: Explain cause and effect as they relate to the motion identified in class.

TEACHER SAY: Excellent. The motion is the effect and the cause is what made the motion happen. Let's look at another movement.

TEACHER DO: Draw a cause and effect graphic organizer on the board similar to what students have seen previously in the student book.



Write the word “motion” in the EFFECT box. Ask one student to point to something that has moved in the classroom. Ask the class whether it is the cause or the effect. Direct students to talk with a **Shoulder Partner** to determine the cause of the motion.



STUDENTS DO: Name cause and effect of another motion identified in the classroom.

TEACHER DO: If students have difficulty identifying the cause of the motion, repeat the process with examples given by students until most students can identify motions as the effect and their causes.

3. TEACHER SAY: We just named two forms of motion we see in our classroom and tried to figure out what caused each motion. We see this cause and effect relationship in many things. You learned about force and motion last year. When a force is applied to something, the force causes it to move. Let's look at this ball.

TEACHER DO: Write the word “force” in the CAUSE side of the graphic organizer on the board. Take out a ball and place it where all students can observe it. Make certain the ball is in a place where it can sit motionless. Observe the ball silently for about a minute before continuing.

TEACHER SAY: I am confused. It is not moving. Why not?



STUDENTS DO: Respond with reasons why it is not moving.

TEACHER SAY: So, something needs to cause the motion. Our chart tells us that we need force to cause motion. Can I have a few volunteers help us by gently demonstrating how force can cause the ball to move?

TEACHER DO: Invite two or three students to (gently) apply a force to cause the ball to move. Between each volunteer, bring the ball back to a rest.



STUDENTS DO: Demonstrate force.

TEACHER SAY: Thank you. You have explained different examples of force and you have demonstrated how force results in motion. Please work in your small groups to explain what force is and how it relates to motion.



STUDENTS DO: Explain force within small groups.

Collaboration

TEACHER DO: Monitor groups, listening for a good example and explanation of force. Ask the group privately if they are willing to share their ideas with the class. Bring the class back together as a whole group once everyone has had a chance to discuss force. This is an opportunity for students to practice the Life Skill: Collaboration.

TEACHER SAY: I heard some very good explanations and discussions. I like the way you continue to listen to each other’s ideas. I have asked one group to explain their idea of force and how it relates to motion. Please listen to see if you agree.



STUDENTS DO: Listen and compare to own definitions.

TEACHER DO: Write the students’ definition on the board as they explain to the class. Ask a few students from other groups whether they agree or disagree and why. Lead any discussion that follows and adjust the definition if necessary.

4. TEACHER SAY: In other words, force and the cause of the motion are the same thing. That makes sense to me too. We have already seen some examples of force and motion in our class. I think it is time for a scavenger hunt. Let’s open our student books to the page Hunt for Force and Motion. Read the directions when you find the page. If you need help reading, quietly ask a classmate sitting near you.



STUDENTS DO: Find the page and read the directions. If needed, help each other with the reading.

TEACHER DO: Explain to students where they will go for the scavenger hunt and what (if any) supplies they may take with them. In order for students to observe many examples, you may wish to visit an outdoor area where other students are playing with sports or other equipment. Prepare with the following instructions:

1. Tell students they will only complete the columns for force and motion at this time.
2. Students in each pair should agree on responses for force. If they cannot agree, find two other students to discuss and draw a conclusion together.
3. Review behavioral expectations.
4. Tell students how much time they will have to complete the task (around 10 minutes).



STUDENTS DO: Complete scavenger hunt, record observations, and return to the classroom for discussion.

5. TEACHER SAY: You found some good examples of force and motion. Were there any examples that you could not agree on what force was causing the motion?

TEACHER DO: Lead a discussion of any discrepancies in describing force. If there is something that is not easily explained, such as a dropped ball, have students mark it for further discussion after they have had more experiences.



STUDENTS DO: Share challenging discussions and remaining questions from the scavenger hunt.

TEACHER SAY: I heard some of you describe the forces as originating with each other. [Give two examples, such as, “I pushed the ball with my hand,” or “I can pull the wagon to make it move.”] In Primary 1, you described force with the words PUSH and PULL. Look over your list of forces. Can you use the words push or pull for each of those forces? Talk with your **Shoulder Partner** to decide.



STUDENTS DO: Analyze each force in chart.

TEACHER DO: Help students as needed by demonstrating with hand movements as either a push or pull. Discuss specific examples with the whole group as needed.

TEACHER SAY: There is a column in the middle of your chart. Go back now and write PUSH or PULL for each of the types of force you listed. Push or pull are the words we will use to describe the force for each. If you are not sure how to respond, leave the space blank. We will see if we can answer these questions over the next few days as we learn more.

TEACHER DO: Demonstrate with one or two examples if needed.



STUDENTS DO: Complete the chart with help from **Shoulder Partner**.

TEACHER SAY: Well done. Now let’s go to the first question on the bottom of the page. We wrote a definition before going on our scavenger hunt, but I think we can write a better one now. Use quiet **Think Time**, then write your own definition of force. Use what we have discussed to help you write your definition.

TEACHER DO: As students work, help those who may have difficulty writing or developing their own ideas. Note any students who have clearly expressed a definition using the terms PUSH and PULL in the definition.

TEACHER SAY: I see some thoughtful responses in writing your definitions. Now let’s use our collective learning and ideas to write a clear definition of force as a class. I looked at your definitions as you were working and think I have a good combined definition.

TEACHER DO: Write the following definition on the board to be copied by students: A force is a push or pull on an object that causes motion.

TEACHER SAY: Do you agree with this definition? Why or why not?

TEACHER DO: Allow discussion before directing students to copy the definition in their student books.

TEACHER SAY: Once you have finished copying the definition, answer the final question. Be very thoughtful. We all need to have a good understanding of what the word FORCE means as we begin our chapter, “Connecting Forces.”



STUDENTS DO: Compare the two definitions and respond in writing.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we experienced and discovered the relationship between force and motion. What is one thing you learned today that built on what you learned in Primary 1?



STUDENTS DO: Share ideas.

TEACHER SAY: In our next lessons, we will learn about our Share Project for “Connecting Forces.” You will imagine and design a solution to help a farmer in Egypt with a specific force and motion problem. We will learn more about the project over the next few days. For now, I am curious to know more about this relationship between force and motion. If I use more force to push something, will it move further? Turn to your **Shoulder Partner** and share what you wonder about force and motion.



STUDENTS DO: Share questions.

Lesson 2

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Observe how a contact force can start, stop, or change the direction of an object's motion.Skim text to identify unknown words.Use context to help define unknown words.	<ul style="list-style-type: none">ForceMotionSkim	<ul style="list-style-type: none">Student booksPencilsMarbles, one per studentStraws, one per student (bendable if available)Ping pong balls (or other lightweight objects), one per small groupOne football for demonstrationChart paper or white paper for each group
PREPARATION		LIFE SKILLS
<p>Organize students into partners and into small groups of four to six ahead of time so that you can smoothly transition into partners and small groups throughout the lesson.</p>		Learn to Know
Critical Thinking: <ul style="list-style-type: none">Explain thinking processes.		



Discover (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our last lesson, we explored force and motion. Raise your hand if you recall the two words we used to describe the forces we observed?

STUDENTS DO: Raise hands to indicate recollection.

TEACHER SAY: Turn to your **Shoulder Partner** and **Whisper** your answer.

TEACHER DO: Pause for students to respond.

TEACHER SAY: Now let's all say it together. What are two words we used to describe the forces we observed?

STUDENTS DO: Respond orally with PUSH and PULL.

2. **TEACHER SAY:** Very good. Today we are going to learn more about push and pull forces by close observation. Let's begin today with an investigation. You will journal your observations in your student book. Turn to the next page, **Journaling My Observations**. Read the directions while I prepare supplies for you.

STUDENTS DO: Find the correct page and read the directions.

TEACHER SAY: Before we begin our investigation, what do you think is meant by "journaling an observation?" Talk with your **Shoulder Partner** before we discuss as a whole group.

STUDENTS DO: Explain journaling to each other.

TEACHER DO: Choose students to explain expectations of journaling. Include use of detailed description and writing in phrases instead of sentences. Sketches are also often found in scientists' journals.

3. TEACHER SAY: In our first investigation, we will continue our exploration into force and motion. This time we will use marbles. We will explore how we can use force to start, stop, or change the direction of an object. To help us understand, let's observe how forces can affect a football.

TEACHER DO: Present a football and ask a student to help you demonstrate how to START the football moving. Ask another student how to STOP the motion of the ball. Do not demonstrate changing direction. This can be discovered by students. Identify the forces and pushes against the ball. After the demonstration, **Model** writing a journal entry on the board with student guidance. Then distribute the marbles for the student investigation.

TEACHER SAY: You will have 10 minutes to work with and closely observe your marbles. Explore on your own first, then work with your partner to see how the two marbles can interact. Remember that your goal is to explore how force can be used to start, stop, or change the direction of an object.



STUDENTS DO: Explore and journal observations.

TEACHER DO: Observe student interactions and discoveries. Remind students periodically to write down notes or sketch in the journal what they are observing. If needed, give more time at the end of the 10 minutes for students to journal.

TEACHER SAY: I saw a lot of excitement. What did you notice in your exploration?



STUDENTS DO: Describe experiences and model as needed.

TEACHER DO: Record findings on the board. Ask two students to collect marbles. Ask two other students to give each student a straw, and ask two more to distribute one ping pong ball to each small group.

4. TEACHER SAY: Let's conduct one more investigation today. You each have a straw, and each group has one ping pong ball. How do you think we can use these to explore force and motion?



STUDENTS DO: Predict methods for the investigation.

TEACHER SAY: Yes. The ping pong ball is very light, so you will blow with a straw to move the ball between members of your group. What is the force that you will be using?



STUDENTS DO: Identify air as the force.

TEACHER SAY: Yes, you will blow air through the straw. You can change the amount of force by blowing softer or harder. Think about how hard you should blow to move the ball slowly, quickly, or in a specific direction. You still have the same goals: Explore how force can be used to start, stop, or change the direction of an object. Do you have any questions?

TEACHER DO: Respond to any questions. Tell students they will have only three or four minutes to complete this exploration. Monitor progress, reminding students to stop the ball with force as well. Allow time for students to journal when they finish with the exploration.



STUDENTS DO: Work in teams to identify effects of force.

TEACHER SAY: What surprised you in this investigation?



STUDENTS DO: Describe experiences and model as needed.

TEACHER DO: Record findings on the board.

TEACHER SAY: We just observed how force can be used to start, stop, or change the direction of an object through two different investigations. On the bottom of the page, write your conclusion. This is a statement about one thing you learned in these investigations. The next statement is something you still wonder, or a question you still have. Let's take time now to complete these independently.



STUDENTS DO: Reflect and respond in writing. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

TEACHER DO: Monitor students and collect supplies.

5. TEACHER SAY: We have been focusing on force and motion so far. Let's turn to the next page, A Trip to a Farm, to find out what Rashad and Zeina are doing. Read the directions and wait for my next instruction before reading.



STUDENTS DO: Read directions on the student book page.

TEACHER SAY: Before reading, we will skim the story for words we do not know. What do I mean when I say SKIM?

TEACHER DO: Accept student answers and **Model** skimming part of the text for unknown words. Use your finger to trace quickly over the text and stop at words that may be unfamiliar to students.

TEACHER SAY: Now it is your turn. Do not read the story. Just let your eyes skim the text for words that look unfamiliar. Circle those words and we will discuss them in about two minutes.

*Note to Teacher: If individual students are having difficulty skimming, **Model** individually by guiding your finger over the print until you find a word the student probably does not know. Stop and ask the student if it is an unknown word. If so, ask the student to circle it and immediately move on. **Model** with one or two words and then ask the student to skim as you watch.*

TEACHER DO: Observe students and guide as needed. Bring students back together after a few minutes to discuss unknown words. Write the words on the board and demonstrate sounding out the word, but do not provide definitions yet.

TEACHER SAY: Now it is time to read the story. You may read quietly with your **Shoulder Partner**. When you encounter a word one of you circled, look at what is happening around it in the story. Talk about what you think it might mean. If there is not enough information, talk about what topic it might relate to.



STUDENTS DO: Read story with **Shoulder Partner**.

TEACHER DO: When students have finished reading, facilitate a discussion about the unknown words. Ask students to share what they think a word might mean, referring back to the context given in the story. If students cannot define a word, ask them to identify clues around the word, such as IRRIGATE helps get water to plants.



STUDENTS DO: Discuss unknown words, referring to context in the story.

TEACHER DO: Once students have reviewed each new word, read the story again either in partners or aloud as a whole class. After the second reading, facilitate discussion about the content of the story. Questions may include:

- What is the setting of the story?
- Has Rashad or Zeina visited a farm before?
- What do they expect to see on a farm?
- What would you like to see on a farm?

Note to Teacher: If your students already have experiences on a farm, allow them to share their thoughts. What would they want Rashad and Zeina to see while visiting a farm?



STUDENTS DO: Discuss and ask questions about reading.

6. TEACHER SAY: This story reminds me of something. Do you remember what I said the Share Project would be?



STUDENTS DO: Share ideas.

TEACHER SAY: Yes. Our Share Project will be to imagine and create a solution to help a farmer in Egypt. Since we are learning about force and motion, we will use these concepts to help the farmer. We will work in groups to design, build, and test our ideas. Before we think about what we will make, we need to know more about the farmer's job. What questions would you want to ask a farmer? Talk with the others at your table. Each group will have a paper to record their questions for the farmer.

TEACHER DO: Hand out chart paper or blank paper for students to record group questions. Allow about five minutes for students to record questions.



STUDENTS DO: Share and record questions.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Let's have one person from each group read one of the team's questions. Think about the question most people wanted to ask. We will take two minutes for you to choose a representative in your group and a question to share.



STUDENTS DO: Choose a group representative and question.

TEACHER DO: Remind students that they are not discussing the questions posed, rather they are simply listening to peers share one question the group recorded. After each group shares, collect the papers to post on the wall.

TEACHER SAY: You have good questions to think about. We will learn more about farmers and their jobs in our next lessons. Then we can decide exactly how to help the farmer in our Share Project. Please turn to your group and thank them for helping you today.

Lesson 3

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Analyze data to identify patterns.Use patterns in data to predict future motion of an object.	<ul style="list-style-type: none">PendulumPredict	<ul style="list-style-type: none">Student booksPencilsCrayonsStringWashers or nuts, one per groupRuler, one per groupMasking tapeScissorsStopwatch (optional)
PREPARATION	LIFE SKILLS	
<p>Cut a piece of string 60 cm long for each group, and one (total) piece of string 120 cm long. As an alternative, students may measure and cut the string to review math skills. Tie a washer or nut to the end of each string. Find a location where you can hang the 120 cm string so that it swings freely. You want to be able to pull the washer/nut back to a 90-degree angle before letting it go.</p>	<p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">Explain thinking processes. <p>Learn to Live Together</p> <p>Sharing:</p> <ul style="list-style-type: none">Effective management and organization of tasks.	



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: We have been learning about force and motion and about the farm Rashad and Zeina are visiting on their field trip. Today we will put these two ideas together. Let's review what we learned about forces and the effect they can have on objects. Tell a **Shoulder Partner** one effect a force can have on an object.



STUDENTS DO: Review previous learning.

TEACHER DO: Lead a discussion about the effect a force can have on an object: Force can start, stop, or change direction of the motion.

2. TEACHER SAY: Rashad and Zeina are so excited to visit the farm. I wonder what kinds of forces and motion they will see on the farm. Please turn in your student books to Motion on the Farm. Read the directions and then work with your **Shoulder Partner**.



STUDENTS DO: Read the story with partners.

TEACHER DO: Lead a discussion on the story. Questions could include:

- What part of the farm do Rashad and Zeina visit first?
- What interesting things do they see there?
- Can you describe the motion of the seeds?
- Why do you think the farmer wants the seeds to land both far and near?
- How does the farmer use the speed of the oxen to help him?



STUDENTS DO: Share ideas.

TEACHER SAY: Thank you for sharing your ideas. This story ends with an unanswered question. I wonder if we can use our discussion to write the next part of the story. Follow along as I read the directions on the next page aloud.



READ ALOUD: Think about the motion of the oxen and the seeds. Write the next part of the story below.

Note to Teacher: Students should be comfortable with the idea of writing the next part of the story from practice during Theme 3. However, you may wish to provide additional scaffolding in the form of a class or small group discussion to determine what elements need to be included (characters, setting, action, and so on).



STUDENTS DO: Use **Think Time** to imagine Rashad's answer and write what happens next in the story.

TEACHER SAY: Please share your story with your **Shoulder Partner**. Compare your ideas. Did you have the same ideas? Explain to your **Shoulder Partner** why you wrote what you did.



STUDENTS DO: Share stories and discuss similarities and differences.

3. TEACHER SAY: Thank you for sharing. You have many creative ideas. The farmer needs to be able to predict the motion of the seeds to be sure they are spread out around the field. Let's learn more about how he can predict motion. We are going to investigate a different kind of movement. We will be looking for a pattern that can help us make predictions.

TEACHER DO: Display a pendulum made from string tied to a washer.

TEACHER SAY: This is a pendulum. A pendulum is an object attached to a string that can swing back and forth. Watch the pendulum swing. What does it remind you of?



STUDENTS DO: Share ideas.

Note to Teacher: Accept all answers. If students have trouble identifying a real-life example of pendulum motion, ask them to think about playing outside on a playground. A swing has similar motion.

TEACHER DO: As you ask each question below, pause to have students share ideas with a **Shoulder Partner**.

TEACHER SAY: I have a few questions for you to consider about this pendulum. For each question, think first, then share your ideas with a **Shoulder Partner**.

- How many times do you think the pendulum will swing back and forth in 15 seconds?
- Do you think we could make the pendulum swing faster or slower?
- How can we find out?



STUDENTS DO: Share ideas with partners.

TEACHER SAY: Open your student books to the page Pendulum in Motion. We are going to read all of the steps together. Then we will gather our materials and begin collecting our data.

TEACHER DO: Choose students to read each instruction. Discuss questions as they arise. Divide students into groups of three and help groups prepare materials. Review expectations of behavior as needed. Before collecting data, allow students to practice swinging the pendulum to figure out what needs to be done to standardize the pendulum test. Students do not yet know the requirements for a "fair test" in science, but they may identify questions such as:

- Do we need to always start the washer at the same height? (Yes, students should pull the washer back 90 degrees, parallel with the floor.)
- What counts as one swing? (one full cycle back and forth)



Sharing



STUDENTS DO: Conduct investigation. (This is an opportunity for students to practice the Life Skill: Sharing.)

Note to Teacher: Each group may keep their own time with a stopwatch. Alternatively, have students release the pendulum at the same time and use one stopwatch or begin silently counting; at 15 seconds say stop.

TEACHER DO: Circulate around the room, assisting and prompting students to record data as needed.

4. TEACHER SAY: Everyone did a wonderful job using the Life Skill: Sharing to work together to collect data. Let's look at our data together. Do you see any patterns? Talk with your group about what you notice.

 **STUDENTS DO:** Share observations with the group.

TEACHER DO: Starting with the 60 cm trials, have a few groups share their data and ask others to confirm whether their own observations were close. Ideally this discussion will establish that the swing speeds observed by each group for a given length were similar across the classroom. If the data shows drastic variation, discuss possible causes. (Likely the cause will be a difference in process—release height or what was counted as one swing.)

TEACHER SAY: In general, was the MOTION (not speed) of the pendulum fairly consistent?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Some objects in motion make a repeated pattern, like a child swinging on a swing or the pendulum we just observed. When the same release was applied, the pendulum always swung in the same direction. At each length, the times were mostly similar across multiple groups. We can use these patterns to predict future motion. You are now going to complete part 2 of the pendulum investigation. What do you think will happen when you cut the string in half again to 15 cm? Write your prediction in your student book.

 **STUDENTS DO:** Use Think Time, then write predictions.

TEACHER SAY: Now, complete the last set of trials with your group. After you collect your data, answer the remaining questions together.

 **STUDENTS DO:** Conduct a third pendulum test and answer questions.

5. TEACHER SAY: Over three sets of trials, we have recorded what happens to the pendulum's motion as the string gets shorter. Let's look for a pattern in the data to see if it can help us make a prediction about what would happen with a LONGER string. Talk to a Shoulder Partner about any patterns you notice in your data as the string gets shorter.

 **STUDENTS DO:** Share patterns seen in the data.

TEACHER DO: Lead a class discussion about the relationship between the length of the pendulum and the number of swings counted. Depending on how consistent group and class data are, students may be able to identify directional or numerical patterns. Help students to describe the relationship in different ways, such as:

- If we make the string longer, the number of cycles _____ (increases/decreases).
- If we make the string shorter, the number of cycles _____ (increases/decreases).
- When we cut the string in half, the number of swings increased by about 3.

Note to Teacher: The analysis of this investigation features many computational thinking skills and mirrors how a computer model or simulation is built. By now, students are familiar with the process of identifying patterns in data, and may even make connections to mathematics learning, such as being able to express the pattern in a mathematical expression. The ability to identify patterns, turn abstract patterns into mathematical expressions, and predict future results are key elements in writing algorithms that form the foundation of computer simulations and models (such as a model that could predict swing time for any length pendulum).

TEACHER SAY: Can you predict how many swings a pendulum with a 120 cm string will make in 15 seconds? With your Shoulder Partner, look at your data table to decide if the pendulum will swing more times or fewer times as the string gets longer.



 **STUDENTS DO:** Use the data table to make predictions. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

TEACHER SAY: Thank you for working so well with your partners to make a prediction. You are using critical thinking to decide how many times the pendulum will swing with a string that is 120 cm long. Let's test it to see if our predictions match the results.

TEACHER DO: Use the prepared pendulum with 120 cm string to demonstrate for the class. Hold the string back at 90 degrees, and then release the pendulum. Have students count the number of cycles as you count down from 15 seconds.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Let's share what you learned today. Talk with your **Shoulder Partner** to answer the question: How can you use patterns of motion to predict future motion?



STUDENTS DO: Share learning with partners.

TEACHER SAY: Thank you everyone. I am excited to explore more of the interesting things Rashad and Zeina find at the farm during our next lesson.

Lesson 4

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Describe the effect magnets have on a variety of materials.Record observed properties of various materials.	<ul style="list-style-type: none">AttractMagnetRepel	<ul style="list-style-type: none">Student booksPencilsCrayonsMagnetsVarious materials to test with magnets
PREPARATION	LIFE SKILLS	
Consider collecting a variety of materials for students to test with magnets. Students can also test materials already found around the classroom. Be sure there are some examples of metals that are NOT attracted to magnets.	<p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">Explain thinking processes.	
	Learn to Be	
	<p>Communication:</p> <ul style="list-style-type: none">Reading, writing, non-verbal communication skills.	



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our last lesson we observed motion and then predicted future motion using our observations. We did this in a detailed investigation. As humans, we are natural scientists. We seek and observe patterns all around us. Raise your hand if you have ever seen a young child bounce or roll a ball over and over again.

 **STUDENTS DO:** Raise hands to respond.

TEACHER SAY: How is that child acting like a scientist?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: As natural scientists, we often mentally record patterns without conducting specific investigations. If we know something about an object's consistent motion from experience, we can make predictions about future motion. Let's see what we know. Open your student books to Predict the Motion.

 **READ ALOUD:** Read the scenarios. Predict the motion of the moving objects or person in each scenario. Match each scenario to one predicted movement.

 **STUDENTS DO:** Match scenarios to predicted movements.

TEACHER DO: As students work, walk around to assist as needed.

TEACHER SAY: Please share your work with your **Shoulder Partner**. Compare your ideas. Be sure to explain why you chose the match that you did.

 **STUDENTS DO:** Share ideas.

2. TEACHER SAY: Thank you for sharing. We know a lot about forces and motion. Today we are going to read more about what Rashad and Zeina see on their field trip to the farm. Please turn in your student books to the page Rashad's Discovery. Let's read to find out what Rashad discovers.

TEACHER DO: You may choose to have students read with a partner or independently.



STUDENTS DO: Read the story.

TEACHER SAY: Magnets are used for many different things. The farmer used magnets to hang up a paper and to position a shade so that it was easy to move. What are some ways you have used magnets? Let's Popcorn.



STUDENTS DO: Share ideas.

TEACHER SAY: Great. Using your experience, complete the next page in your student book by circling the objects you think would be attracted to a magnet. After you are finish circling, work with your Shoulder Partner to explain why you chose those objects and how you could test your predictions.



STUDENTS DO: Circle objects and explain thinking to **Shoulder Partner**. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

3. TEACHER SAY: Thank you for using your critical thinking skills to explain your reasoning. The farmer in our story uses magnets to solve some problems he encounters as he works. We will also be using magnets in our Share Project to help him solve another problem. Let's learn more about magnets and test out the ideas we recorded. Please turn to the page Testing the Effect of Magnets. Read the directions silently.



STUDENTS DO: Read directions.

TEACHER SAY: After you have filled in the results on the table, return to your seats and we will discuss your findings.

TEACHER DO: Set up a supply area with materials for students to test and/or allow students to test various materials throughout the classroom.



STUDENTS DO: Explore whether magnets are attracted to various materials and record observations.

TEACHER SAY: In our last lesson, we looked for patterns in the data by looking at the numbers we recorded in a data table. Today you are going to look for a pattern in the verbal observations you recorded. From this pattern we can write a rule about how magnets behave. What do all of objects that were attracted to magnets have in common?

TEACHER DO: Provide **Think Time**. Use **Calling Sticks** to have students share ideas. As students share, facilitate discussion to determine a rule for the types of materials that are attracted to magnets.

TEACHER SAY: You are getting really good at finding patterns in data. We have determined that magnets are attracted to materials that contain metal. Did anyone test a metal that the magnet did not stick to?



STUDENTS DO: Share experiences.

TEACHER SAY: That might have surprised you. There are in fact different types of metal. We have to be sure our rule is specific enough because we know that magnets are not attracted to every type of metal. Magnets only attract materials that contain iron, cobalt, or nickel.

TEACHER DO: Record the rule on the board. Allow time for students to answer the questions at the bottom of the student book page.



STUDENTS DO: Record or revise answers in student books.

4. TEACHER SAY: Rashad saw two ways that magnets are used on the farm he visited. Let's read about another unique way magnets are used by some farmers. We are going to read a passage titled Cow Magnets. What do you think this reading will be about? Before we read, share your ideas with a **Shoulder Partner**.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Choose students to help read the paragraph with you to the class, as the content may be a bit difficult for independent reading. Then facilitate a discussion about the text using questions such as the following:

- How can cows get metal in their stomachs?
- Why is it a problem if a cow has metal in its stomach?
- How do farmers use magnets to help keep cows safe?

TEACHER SAY: It is fascinating how magnets are used to keep cows safe. Using what you know about magnets, you are going to brainstorm another way you could use magnets to help keep the cows safe from metal in the grass. Read the question at the bottom of the page. Work with a **Shoulder Partner** to come up with a new idea.



STUDENTS DO: Brainstorm a solution using magnets. (This is an opportunity for students to practice the Life Skill: Communication.)

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we decided on a rule for determining which types of materials will be attracted to magnets. We can use this information to help us play, work, or solve problems with magnets. You used critical thinking to come up with another solution to help the cows. Let's hear some of your wonderful ideas. As you share, explain how magnets will help.

TEACHER DO: Use **Calling Sticks** to select several students to answer.



STUDENTS DO: Share ideas with the class.

Lesson 5

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Describe the effects of magnets on each other.Identify the north and south pole of a magnet.	<ul style="list-style-type: none">AttractCompassPoleRepel	<ul style="list-style-type: none">Student booksPencilsCrayonsMagnets (with north and south poles labeled)
PREPARATION	If the magnets are not already labeled, mark the north and south poles of each magnet.	
LIFE SKILLS		<p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">Explain thinking processes.



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our last lesson, we explored the effect magnets can have on a variety of different materials. Turn and talk to your **Shoulder Partner** about something that surprised you as you were testing the materials in our previous lesson.

STUDENTS DO: Share experiences from the previous lesson.

TEACHER DO: Use **Calling Sticks** to have students share with the class.

TEACHER SAY: Thank you for sharing. We discovered that magnets attract materials that contain certain types of metal and that magnets do not have any effect on objects that are not made of these materials. Today we are going to explore what happens when two magnets are near each other.

2. **TEACHER DO:** Hand out student books.

TEACHER SAY: To help us with today's exploration using magnets, let's read a little more about them. So far in this chapter we have been reading and learning from narratives about Rashad and Zeina. Please turn in your student books to the informational text titled **How Are Magnets Different from Other Materials?** Let's orient ourselves to the different type of text. As you look at this page, what do you think you will learn about? Share with a **Shoulder Partner**.

STUDENTS DO: Share ideas.

TEACHER SAY: You are correct. The subheadings give us clues about the topics in the text. Today we are going to read only the first section, titled **POLES**. Where have you heard this word before?

STUDENTS DO: Share ideas.

TEACHER DO: Allow various student responses that demonstrate familiarity with the word, then focus the discussion on polar habitats studied earlier in the year. Review where the poles on the globe are located.

TEACHER SAY: You already know a lot about the regions that we call “poles” of the earth. We are going to discover how this word connects to magnets. As you read with a **Shoulder Partner**, be sure to circle any words that are new to you.



STUDENTS DO: Read the informational text with **Shoulder Partner**.

TEACHER SAY: In this reading, we came across a special word that describes the ends of a magnet. This word has several different meanings, so it is important for us to remember what it means when we are talking about magnets. The important word is POLE. Turn to the next page, Vocabulary: Pole.

TEACHER DO: Facilitate a discussion about the new vocabulary word as it is introduced in the text. Guide students through filling out the vocabulary page as in previous lessons. Be sure to highlight that all magnets have a north and south pole, but they may be in different positions depending on the shape of the magnet.

3. TEACHER SAY: Earlier, I mentioned that we are going to see what happens when two magnets come close together. Let's make some predictions about what we think will happen.

TEACHER DO: Provide **Think Time** for students to consider what will happen when two magnets are brought close together, then use **Calling Sticks** to have students share predictions. To avoid guessing, ask students to provide evidence and reasoning for predictions. Listen for students to use prior experiences as well as what they now know about magnetic fields and poles.



STUDENTS DO: Share predictions and evidence or reasoning. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

TEACHER SAY: Thank you for sharing your predictions. Now it is time to see if our observations match our predictions. Please turn in your student book to the page When Magnets Come Together. Follow along as I read the directions aloud.



READ ALOUD: Use two magnets to follow each direction. Draw a diagram and write a sentence to show what happens. Be sure to label the poles of the magnets.

TEACHER DO: Put students into small groups to complete the investigation. Provide two magnets to each group.



STUDENTS DO: Complete investigation.

TEACHER DO: Have students return to their seats after they have completed both observations.

TEACHER SAY: Your diagrams and written observations are very helpful in understanding how magnets behave. Let's use what we observed to compose another rule about magnets.

TEACHER DO: Lead a class discussion about what happens when two magnets are brought together. Use **Calling Sticks** to select a few students to respond. Encourage students to use evidence to support their points of view. Students should come to the conclusion that when “like” poles meet, the magnets push away from each other and when opposite poles meet, the magnets attract each other. Introduce the vocabulary of ATTRACT and REPEL, then guide students to compose and record a new class magnet rule.

TEACHER SAY: Your evidence shows that when opposite poles of magnets come together, they are attracted to each other. We use the academic word ATTRACT instead of the more informal STICK or STICK TOGETHER. How does this compare to what happens when a magnet is near a material that contains a metal like iron?



STUDENTS DO: Share ideas.

TEACHER SAY: Very good. They are similar in that opposite poles are attracted to each other just like magnets attract materials with iron in them. This is different than what we saw happen when the same poles of two magnets came together. We have a scientific word to use to describe

two magnets pushing away from each other. We can say that when the north pole of a magnet comes near the north pole of another magnet, they REPEL each other. Everyone, let's say that word together.



STUDENTS DO: Repeat the word REPEL.

TEACHER SAY: Guide students as a class to compose and record a second rule about magnets using the new vocabulary terms ATTRACT and REPEL.

4. TEACHER SAY: We are now going to complete a fun challenge where you will need to use your understanding of ATTRACT and REPEL. Turn in your student book to the page Magnet Maze. Read the directions silently.



STUDENTS DO: Read directions.

TEACHER DO: Answer questions and clarify directions as needed. Groups will continue using the same two magnets from the last activity. As students are working, walk around to assist as needed. Encourage students to use both pushes (repelling) and pulls (attracting) to get the magnet through the maze.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We have learned about two important parts of a magnet and the effect magnets have on each other. You had the chance to use your knowledge to move a magnet through a maze without touching it. Earlier we looked at motion that was caused by forces (pushes and pulls) that touch an object. The magnets in your maze also had motion but nothing was touching them. How do you think that happened? Do you think there is a force here that does not involve objects touching?

TEACHER DO: Use **Calling Sticks** to select several students to respond. To further reinforce the idea that a magnetic field is a force, connect the language of PUSH and PULL to ATTRACT and REPEL as students discuss ideas.



STUDENTS DO: Share ideas with the class.

Lesson 6

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Collaborate with peers to complete hands-on investigations.Use observed evidence to describe a magnetic field.Use academic words to communicate observations.	<ul style="list-style-type: none">Magnetic field	<ul style="list-style-type: none">Student booksPencilsCrayonsMagnetsCompassPieces of paperPaper clips
PREPARATION	LIFE SKILLS	
Prepare several small pieces of paper for each group to use while testing with the magnet and paper clip.	<p>Learn to Work</p> <p>Collaboration:</p> <ul style="list-style-type: none">Respect for other opinions. <p>Learn to Live Together</p> <p>Respect for Diversity:</p> <ul style="list-style-type: none">Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.	



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: We have been learning a lot about magnets, their parts, and the effects they have on different materials, including other magnets. In our previous lesson, we experienced one magnet repelling another without touching it. Share with a **Shoulder Partner** your ideas for how it was possible for one magnet to pull and push another magnet without touching it.



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Listen as students discuss. Select two students to share answers with the entire class, then hand out student books.

2. TEACHER SAY: Before we use our magnets today, we are going to read a little more about them. Please turn back in your student book to the page **How Are Magnets Different from Other Materials?** Look at this page and find the second subheading. What do you think **MAGNETIC FIELD** means? Let's **Popcorn** some ideas.



STUDENTS DO: Share ideas.

TEACHER SAY: Thank you for sharing your ideas. Now read the paragraph with a **Shoulder Partner**. Remember to circle any words that are new to you.



STUDENTS DO: Read the section titled **MAGNETIC FIELD** and circle unknown words.

TEACHER DO: Lead a discussion with the class about how it is possible to know there is a magnetic field if we cannot see it. Students may cite the example from the reading. (Iron filings near a magnet make a pattern showing the field.) Encourage students to use evidence from previous investigations with magnets, such as using a magnet to push another magnet through the maze without touching it.

3. TEACHER SAY: We now know there is an invisible force that is pushing and pulling our magnets together and apart. We are going to continue looking for evidence of the magnetic field in another investigation. Please turn to the page Forces from a Distance. Follow along as I read the directions aloud.

 **READ ALOUD:** Find at least two ways to make a paper clip move with the magnet. Do this without the paper clip coming in direct contact with the magnet. (In other words, do not hit the paper clip with the magnet.) Record your ways with diagrams.

 **STUDENTS DO:** Follow along as directions are read aloud.

TEACHER DO: Provide paper clips and magnets to students. Circulate around the room as students work to assist as needed.

Note to Teacher: Groups will continue to use the magnets and paper clips for the next activity.

4. TEACHER SAY: Good work. What evidence did you see that a magnet's magnetic field works through the air?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Do you think the magnetic field can work through other objects?

TEACHER DO: Use **Calling Sticks** to select several students to respond. Encourage students to use previous experiences to justify answers.

TEACHER SAY: We are going to test your ideas. Turn to the page Can Magnets Attract Through Other Materials? Read the directions with a **Shoulder Partner**.

 **STUDENTS DO:** Read directions.

TEACHER DO: Provide pieces of paper to students. Circulate around the room as students work to encourage, prompt, and motivate groups to stay focused and on task. After students have answered the questions, have them clean up the materials and return to their seats.

 **STUDENTS DO:** Complete the investigation.

TEACHER SAY: I know we are curious about others' results. Let's take the next few minutes and share our results. **Hands Up Pair Up** in groups of three to share your results. Did everyone get the same results?

 **STUDENTS DO:** Discuss similarities and differences of results with two other students.

TEACHER SAY: It is interesting to see what happened with other groups. You probably noticed that most of the results are very close to the same number, but not all are exactly the same. An important part of an investigation is making a conclusion about the data we collect. Turn to another pair of partners and tell them what you learned about magnets working through other materials.

 Respect for Diversity

 **STUDENTS DO:** Share conclusions with another pair of partners. (This is an opportunity for students to practice the Life Skill: Respect for Diversity.)

Note to Teacher: The following learning experience is written as a student-driven investigation using one compass per small group. If there are not enough magnets for every student to have one, students can share. Have one student complete one full line of the magnetic field before passing the magnet to another student. This activity may also be completed as a demonstration if needed. For a demonstration, place the compass around a magnet and have students draw the fields shown. If a compass is altogether unavailable, skip to step 6.

5. TEACHER SAY: You are thinking like scientists when you use evidence to compose an explanation. Let's continue working as scientists. We have read that magnets have magnetic fields around them. We have seen some evidence that this invisible field works through the air and other materials to attract/repel other materials or magnets. We are now going to use another tool to make the magnetic field visible.

TEACHER SAY: Please turn in your student book to the page Where Is the Magnetic Field? We are going to follow these steps together to draw the magnetic field around our magnets.

TEACHER DO: Provide materials to each group. Choose students to read each step and discuss any questions. Read each step again and **Model** each step if needed to draw the magnetic field, walking around to help students as they work.



Collaboration

STUDENTS DO: Complete the investigation. (This is an opportunity for students to practice the Life Skill: Collaboration.)

TEACHER SAY: Scientists often compare results with each other to see if there are similarities or differences. Scientists can also find patterns in the data by comparing their results to others. Share your drawing of the magnetic field with another pair. How do they compare?

STUDENTS DO: Share and compare drawings.

6. TEACHER SAY: Magnetic fields are not just important for sticking things together. People have found many other ways to use the magnetic field to help them. Let's read about one way that doctors use magnetic fields to help patients. Please turn to the page Magnetism and Medicine. Work with your **Shoulder Partner** to follow the directions on the page. When you finish, look up and I will know you are ready to go on.

Note to Teacher: Depending upon your students' literacy level, you may choose to read the article orally instead of assigning the reading to partners. There are many new words for students to explore in the text. You may wish to spend additional time discussing vocabulary with the entire class.

TEACHER DO: Ask students questions about the reading. Suggested questions include:

- How do doctors use magnets to help patients?
- What does an MRI do?

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Great work, scientists. We found lots of evidence that tells us magnetic fields exist even if we cannot see them. I will choose a discussion leader to help us close today's lesson. The question will be: What surprised you in today's lesson?

TEACHER DO: Choose a discussion leader to call on students with raised hands.

STUDENTS DO: Share responses.

Lesson 7 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Deconstruct an object with multiple parts to examine how the parts work together.Collaborate to reconstruct the parts into a new object.	<ul style="list-style-type: none">Reverse engineering	<ul style="list-style-type: none">Student booksPencilsCrayonsOld objects to be taken apart (example: small appliances)Screwdrivers (as needed, see Preparation)Tape
<p>PREPARATION</p> <p>Collect a variety of old objects for students to take apart. Examples of objects that work well are small appliances or toys with several working parts. If possible, include items that contain magnets. If the objects have screws, be sure to have the correct size screwdriver for students to use.</p>	<p>LIFE SKILLS</p> <p>Learn to Live Together</p> <p>Sharing:</p> <ul style="list-style-type: none">Effective management and organization of tasks.	



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our previous lesson, we learned about a force that affects other objects without touching them. What is this force called?

TEACHER DO: Use **Calling Sticks** to choose students to give the correct answer (magnetism or magnetic field).

STUDENTS DO: Share ideas.

TEACHER SAY: That is right. Magnetism is a force that affects some objects, including other magnets, without direct contact. This force can be very helpful. Share with a **Shoulder Partner** one way that people use magnets.

STUDENTS DO: Share ideas.

2. TEACHER SAY: It has been fun learning about motion and forces that are all around us. We have seen they can even be found at the farm. Let's read about what Rashad and Zeina see next on their field trip. Open your student books to the page **The Farmer Needs Help**. Let's see if we can use what we have learned to help him out. Please read the story to yourself as we read it aloud in class together.

TEACHER DO: Choose students to read out loud, one sentence or one paragraph at a time. Remind students to read with emotion.

STUDENTS DO: Read story.

TEACHER DO: Lead a discussion of the story to ensure student understanding and practice reading strategies, such as citing the text when answering questions. Questions could include:

- What part of the farm are Rashad and Zeina visiting now?
- What does the farmer want to do with the cattle?

- What did the farmer buy?
- What did Zeina notice?
- What is the problem the farmer is trying to solve?

 **STUDENTS DO:** Analyze the text and share ideas.

3. TEACHER SAY: The farmer really needs help. We will need to use what we have learned and lots of creativity to solve this problem. We are going to do an activity today that will help us think creatively. Engineers design and build things to solve problems, but often those solutions are not simple. Sometimes the solutions have multiple parts that work together. Our solutions for the farmer will likely have multiple parts that work together. Today, let's learn more about how things are made. Turn to the page Does It Have Parts? Read the directions with a **Shoulder Partner** and discuss the parts you see with each other. List five parts in the first column of the table at the bottom of the page.

 **STUDENTS DO:** Read directions and share ideas.

TEACHER DO: Circulate around the room and listen in as students list the parts they see. Encourage students to make up names for parts they do not know. After students have listed all of the parts, partners should work together to answer the questions at the bottom of the page.

TEACHER SAY: Can you believe the tractor is made up of so many parts? The next step is to think about the purpose of each part. Work with your partner to record your ideas in the middle column of the table.

 **STUDENTS DO:** Record ideas.

TEACHER DO: Assist students as needed. It is okay if students do not know the actual purpose of each part.

TEACHER SAY: Let's think about just the wheel for a moment. What does the wheel help the tractor do? If the wheel were removed, would the tractor still work?

 **STUDENTS DO:** Share ideas.

TEACHER DO: Lead a discussion with the class about how each wheel is necessary for the tractor to work properly, but the wheels are not very useful by themselves. Ask students to imagine what would happen if the wheel were on top of the tractor's roof. Emphasize that the parts work together as a system in order to function. Help students understand that when parts are put together in a particular way, they can do things that are not possible for each part individually.

TEACHER SAY: The last step is to record questions you have about the parts you see. Write those in the last column of the table.

 **STUDENTS DO:** Record questions.

4. TEACHER SAY: Great thinking. We can see many parts in this picture of a toy tractor. Do you think there are other parts we cannot see? How can we figure out what something is made of?

 **STUDENTS DO:** Share ideas.

Note to Teacher: Guide students to the idea that we can take things apart to determine the individual parts that it contains. Note that the academic term for this process is reverse engineering. Connect this concept to what students know about building using the engineering design process.

TEACHER SAY: Those are great ideas. We can take something apart. In order to learn about how an object works, though, we need a strategy for how we take it apart. What steps could we take to learn how something is built and how it works?

TEACHER DO: Record the steps on the board as students suggest them. Allow time for students to revise their ideas and the order the steps are recorded. Steps should include ideas such as taking off one part at a time, making drawings about how parts fit together, and taking notes about what a

specific part might do. Emphasize that it is okay if students do not understand what a part does. The learning process often involves questions as well as ideas.

TEACHER SAY: Let's discover how the parts of an object work together. You will work with your group to take apart one object. Please be careful as you take apart the object. Some parts will be removable, and some parts will be glued together or permanently attached. You should try not to break your object. As you work, record what you discover. Open your student book to the page Reverse Engineering. Read the directions silently.

TEACHER DO: Provide an object to be taken apart to each group. Circulate around the room as groups are working to assist as needed. Remind students to keep the pieces they remove.

TEACHER SAY: Remember, you will need to work together to complete the investigation. Decide who will go first, and then take turns removing a piece of the object. You will need to record each step using drawings and words. This can include what you think the part does and questions you have about each part.

 **STUDENT DO:** Conduct investigation.

Note to Teacher: Students should take turns taking the object apart. As one student is working on the object, the other students can record the steps taken and what they discover.

5. TEACHER DO: When all groups have taken their objects apart, bring the class back together.

TEACHER SAY: Look at the pieces you have removed from the object you have. What do you think would happen if you tried to put the pieces together in a different way?

 **STUDENTS DO:** Use **Calling Sticks** to call on students to share ideas.

TEACHER SAY: How would your new object work? Would it do the same thing, or would it have a new purpose?

 **STUDENTS DO:** Use **Calling Sticks** to call on students to share ideas.

6. TEACHER SAY: Let's find out. Please turn in your student book to the page Rebuilding in New Ways. Follow along as I read the directions aloud.



READ ALOUD: Take turns with your group to put the object back together in a new way. After each person adds a piece, record what you did using words and drawings. Make sure you draw your pictures in the order of the steps you take.

 **STUDENTS DO:** Follow along as the directions are read aloud.

TEACHER SAY: You may add tape to your object, but nothing else other than the parts you have removed. Each person in your group should get to add a part. I want each of you to pick up one piece you hope to add. Decide as a group who will go first.

 **STUDENTS DO:** Select a part to add.

TEACHER DO: Allow time for students to build a new object. Assist groups as needed. Encourage students to consider what their new object is and how it could be used. After students are finished building, have them clean up their materials and display the object.



Sharing



STUDENTS DO: Collaborate with group to rebuild a new object and record notes and sketches of the process. (This is an opportunity for students to practice the Life Skill: Sharing.)

7. TEACHER SAY: I love to see everyone's creativity. We have some very interesting new objects. I am sure everyone is excited to share. We are going to do a **Gallery Walk** to see everyone's creations.

TEACHER DO: Divide the class in half. Half of the class will walk around and ask questions. The other half of the class will stay with their objects to present and answer questions. After a period of time, allow the groups to switch places. Circulate around the room and assist students as needed.



STUDENTS DO: Share objects. Ask and answer questions.

TEACHER DO: Circulate around the room and listen to conversations. After all groups have had a chance to share, collect the objects and materials and have students return to seats.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Everyone did a wonderful job today. You took something apart and then put it together in a new way. Do you think that your new object could be used the same way as your original object? Which parts are only decorative and do not help the object complete a task? Share your thoughts with a **Shoulder Partner**.



STUDENTS DO: Share ideas.

TEACHER SAY: Tomorrow you will begin designing a solution for the farmer's problem. You will design a way to keep the gate closed. What ideas did reverse engineering give you? How did your group use one part in a new way? Turn and talk to a **Shoulder Partner**.



STUDENTS DO: Share ideas.

Lesson 8

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Explain why the cost of a product might be important to a farmer.Design and create simple products for a farm.Review and use the engineering design process.	<ul style="list-style-type: none">Engineering design process	<ul style="list-style-type: none">Student booksPencilsCrayonsAssorted materials for building (examples: string, cardboard, metal objects such as paper clips and coins, assorted sizes of magnets, sticks, wood, glue, tape, cardboard boxes)Parts left over from Lesson 7Chart paper
PREPARATION		<p>Prepare bags of materials for each student group with one sample of each material or item available for use in each bag. Arrange the remaining supplies in an area accessible to all students. List all materials on chart paper or on the board to be used for the rest of the chapter.</p>



Share (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: During this chapter, we have learned about many different things. Let's start off with a quick review of all the new things we know about force and motion. We will use **Think Time** and then **Popcorn** our answers.

TEACHER DO: Allow **Think Time** and then choose one student to begin the conversation.



STUDENTS DO: Recall experiences and describe new understandings about force and motion.

TEACHER SAY: We have also been learning about magnetism. How is magnetism related to force and motion?



STUDENTS DO: Explain magnetism.

2. **TEACHER SAY:** Excellent. Today we will begin our Share Project. We will design a solution for the farmer's problem. Look back in the story, *The Farmer Needs Help*. Find and put your finger on the part of the story that tells the farmer's problem.



STUDENTS DO: Find the farmer's problem on the bottom of the page.

TEACHER DO: Discuss the problem, including that the animals can push the gate open by themselves.

TEACHER SAY: You will design a way to keep the gate closed so the cattle will not escape the barn at night. You will use what you have learned to build a model of a gate closure that will keep the animals inside. How can you use what you have learned to help build your model for the Share Project? Talk with your **Shoulder Partner** about your ideas.



STUDENTS DO: Share ideas with a partner.

TEACHER SAY: We have many things to think about. Our Share Project is to make something that will prevent cattle from escaping the barn on the farm.

TEACHER DO: Divide students into groups of three to five for the Share Project.

3. TEACHER SAY: Let's begin working on our projects. First, we need to know the expectations. Open your student book to the last page of this chapter, My Self-Assessment. Please help each other find the correct page.

TEACHER DO: Review each section of the self-assessment with students. Clarify any questions students may have.

4. TEACHER SAY: Now that we know the expectations, please turn to the page Engineering Design Process. Once everyone in your group has found the page, review the process together. Think about the last time you used the design process and how the steps helped you. Make certain everyone in your group understands the steps you will take.



STUDENTS DO: Review design process diagram and explain to those who need help.

TEACHER DO: Bring students back together to answer any questions about the steps of the design process.

5. TEACHER SAY: The first step of the design process is the IDEA. The plan will start with ideas from everyone in the group. Open your student books to the page My Ideas.



STUDENTS DO: Open to correct page and read directions.

TEACHER SAY: Let's start by individually listing our ideas. Then, we can combine those ideas to illustrate a plan for the gate. Take a moment to think before we begin.

TEACHER DO: Provide **Think Time** for students before allowing them to begin writing.



STUDENTS DO: Work independently to write three ideas for the design.

6. TEACHER SAY: Now it is time to begin the next step of the design process with your group. Engineers often collaborate to solve real-world problems. First, share the ideas that you have listed. Use a Talking Stick to take turns sharing what you have written if needed. Ask your teammates to explain reasons why an idea might work.



STUDENTS DO: Share ideas and explain designs.

TEACHER SAY: Your group will choose one plan for the animal pen. I will hand out paper for you to generate your plan together. Share the responsibility of drawing your design. One of you might sketch as others describe details. Maybe you want everyone to draw a different part, or perhaps one draws and others label the action of the parts. Then each of you will sketch the same plan in your student book. As you plan, remember that you will be responsible for designing the best solution together.

TEACHER DO: Hand out paper for students to record their group's decision. Remind students that is okay that not every idea is chosen. Maybe each original idea will help solve another problem along the way.



STUDENTS DO: Collaborate to draw a plan for how to keep the gate closed.

TEACHER SAY: You have all agreed on a plan. What is the next step in our design process?



STUDENTS DO: Respond with MATERIALS.

7. TEACHER SAY: Yes. We need to think about the materials we can use to build our model. As we choose our materials, there is one more factor the farmer must take into consideration. What

do you think a farmer would have to consider before choosing a product to buy that will help him on the farm?



STUDENTS DO: Share ideas with the whole group.

TEACHER SAY: Yes, the product would have to be dependable and last a long time. The other thing that would be considered is the cost. If the new tool or part is too expensive, the farmer will not be able to afford it. Why do you think cost is important to the farmer?

TEACHER DO: Encourage discussion about the importance of cost to the farmer.



STUDENTS DO: Share ideas about cost.

TEACHER SAY: In our last lesson, we learned that when parts are combined, they work together as a system to do a new job. It is time to start thinking about how the materials we have available can be combined to build a model of your design.

TEACHER DO: Have one student from each group collect a bag of materials.

TEACHER SAY: Each group has a bag with a sample of each type of material that is available to use. When building your model, you may use more than one of each item. Open the bag and take time to see what you might use to build your model.



STUDENTS DO: Observe and consider how to combine materials to design a new object.

TEACHER SAY: I see some of you are beginning to have ideas. Let's look at the list of materials on the board. You may choose any of the materials listed to build your model. In this project, we will also consider the cost of materials for the farmer. When you make your model, you will have to budget for the materials you use. This will affect whether or not the farmer will want to purchase your product.

Note to Teacher: Make certain students know this is a fictional scenario. Budgeting means they will add up the cost of all the parts they buy as expenses.

8. TEACHER SAY: We will work first in teams to decide how much each item will cost for our project. There will be only three prices: 1 LE, 3 LE, and 5 LE. Your group will sort the materials into three piles to determine most expensive, middle priced, and least expensive. For example, rubber bands might cost 1 LE because there are many of them available and they are inexpensive to make. Cardboard might cost 3 LE, depending on its size. Large magnets might be worth 5 LE because they are more expensive to make or last longer than other materials.

TEACHER DO: Begin by modeling for the class sorting one item for each price. Guide students to assign those three items to their own sorts. Answer any questions and give students about three minutes to complete a full sort.



STUDENTS DO: Analyze item differences and sort. (This is an opportunity for students to practice the Life Skill: Critical Thinking.)

TEACHER DO: Allow students to do a **Gallery Walk** to observe others' sorts. While students are reviewing others' ideas, observe group sorts and decide which items are most often in a specific sort. Record these in three columns on chart paper for students to view. Discuss as a whole group where items that are not consistently in a sort will be placed.



STUDENTS DO: Collaborate to sort final items.

TEACHER SAY: Now that we have had time to observe the materials, review your plan together. Talk within your group to decide the best materials to use. Then, on your diagram, label the materials you will need.



STUDENTS DO: Share ideas in groups and label materials on the diagram.

TEACHER DO: As students share in groups, monitor student involvement.

9. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we began using the engineering design process to create a tool to protect the animals on the farm. Turn and talk to a **Shoulder Partner** about how they helped you in the group today.



STUDENTS DO: Tell partner one way they helped today.

Lesson 9

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Use self-management skills to complete a task.• Collaborate to build a model of product.• Give effective feedback to improve a peer's model.	<ul style="list-style-type: none">• Engineering design	<ul style="list-style-type: none">• Student books• Pencils• Crayons• Materials for building model• Design plan
PREPARATION		<p>LIFE SKILLS</p>
<p>Seat students in working groups at the beginning of the lesson. Hand out the plans developed by groups in Lesson 8. Set up the materials in a central location in the room so all groups can access them.</p>		<p>Learn to Work</p>
<p>Productivity:</p> <ul style="list-style-type: none">• Create a list of tasks to be accomplished, including setting alternative plans.		<p>Learn to Live Together</p>
<p>Sharing:</p> <ul style="list-style-type: none">• Effective management and organization of tasks.		<p>Learn to Be</p>
<p>Accountability:</p> <ul style="list-style-type: none">• Provide effective feedback.		



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our last lesson, we began using the engineering design process to develop a product that prevents livestock from escaping their area on the farm. What steps have we taken so far and what is our next step?

TEACHER DO: Use **Calling Sticks** to have three or four students share the steps.

 **STUDENTS DO:** Name steps taken in the engineering design process.

TEACHER SAY: Today we will build, test, and begin to refine our design. You will be responsible for managing your own time, but we will stop to test and help each other after you have worked for about half our time period. At that point, groups will pair up to test their model and give feedback to each other. Then you will decide how to refine your design.

 **STUDENTS DO:** Ask questions about the process.

2. TEACHER SAY: Before you start gathering materials, review your plan and agree on the tasks that need to be completed, the order of tasks, and roles of the team members. Let's turn to the next page in your student book, Our Tasks. Follow along as I read the directions.

 **READ ALOUD:** Decide as a group what tasks you need to complete to make your model. Record who will be responsible to complete each task. Then, check off each task when it is completed.



STUDENTS DO: Ask any clarifying questions.

TEACHER SAY: Remember that you will be responsible for the cost of materials in your final design as well, so making notes about costs should be one of the tasks you list.

STUDENTS DO: Discuss and agree on project management in groups. (This is an opportunity for students to practice the Life Skills: Productivity and Sharing.)

3. TEACHER SAY: Once you have determined jobs and tasks to be completed, begin working. I will stop you in about _____ minutes to test your model and share feedback.

TEACHER DO: Monitor student work, giving periodic reminders of how much time remains. Circulate around the room, asking guiding questions such as:

- Why did you choose this material?
- How will it remain secure?
- What would happen if a cow or ox pushed on it?

STUDENTS DO: Complete tasks and prepare for testing.

TEACHER DO: Halfway through work time, stop students so that they can test the designs. Pair groups together so that each group is able to give feedback to another group.

4. TEACHER SAY: Please turn in your student book to the page Testing Our Design. Read along as I read the directions aloud.



READ ALOUD: Work with another group to give feedback about each other's designs. Listen to the ideas presented by the other team about your design. On one side, take notes and observe what works well about your design. On the other side, write what needs to be improved.



STUDENTS DO: Read along. (This is an opportunity for students to practice the Life Skill: Accountability.)

TEACHER SAY: This is a time to give good feedback and to consider whether or not changes need to be made to your design. Remember that your feedback is about what works and what might need to be improved in the design. Each group will give feedback even if the design being tested is not yet complete.



STUDENTS DO: Test designs in paired groups and provide explanations and feedback.

TEACHER DO: Circulate around the room as students test and share. Remind groups to provide helpful feedback in kind ways. Once you see that most groups are finished, call the class back together.

5. TEACHER SAY: Now that you have heard suggestions for your product, draw or write about any ideas for how to improve your own product at the bottom of the page. In a few minutes we will come back together for final instructions.



STUDENTS DO: Work independently with new ideas for the product.

TEACHER SAY: Remember that each group will decide what changes to make, if any. Your group may have different ideas that may work even better. Work together to decide what changes you will make. On your group's plan, record the changes to your design. You may redraw the whole design or note changes in another color on your plan. Take time to think through your ideas since this will be the final redesign.



STUDENTS DO: Review and collaborate for redesign.

TEACHER DO: Allow students to begin the final design if time allows.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we began building our models for the farmer. In our last lesson, we will look at the costs for our design and then share those final designs. Let's take time to thank the members of your team. Be sure to tell ways they helped the team succeed today.



STUDENTS DO: Share thoughts.

Lesson 10

Overview

LEARNING OUTCOMES	MATERIALS	PREPARATION
<p>Students will:</p> <ul style="list-style-type: none">• Use feedback to redesign a product.• Determine design costs for the farmer.• Self-assess progress in learning.	<ul style="list-style-type: none">• Student books• Pencils• Crayons	Make certain students are sitting with their engineering groups and have products as well as improvement plans from the previous lesson.
LIFE SKILLS		
Learn to Be		Learn to Do
<p>Self-Management:</p> <ul style="list-style-type: none">• Review progress in realizing goals.		Collaboration: <ul style="list-style-type: none">• Respect for other opinions.



Share (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we built and tested our models. We also received feedback from another team about our designs. Who would like to share something you learned from another team?

TEACHER DO: Use **Calling Sticks** to have students share.

STUDENTS DO: Share new ideas.

TEACHER SAY: Today we will complete our improved designs. In our last lesson, you made a plan for your redesign. You will have 20 minutes today to complete your model. Make certain each of you know the tasks at hand and who will be responsible for each task.

Collaboration

STUDENTS DO: Assign tasks and complete designs. (This is an opportunity for students to practice the Life Skill: Collaboration.)

TEACHER DO: Circulate around the room, reminding students of time remaining to work and asking guiding questions such as:

- What evidence from the tests supports this change?
- How will it improve your tool?

2. TEACHER SAY: Now that we have completed our models, we need to complete the budgets for our designs. Turn to the next page in your student book, Cost Sheet. Follow along as I read the directions aloud.



READ ALOUD: In the first column, list the materials you used to build your model. In the second column, write how many of each item were used. In the next column, write the cost for each item. For the last column, choose a multiplication strategy to decide how much you are spending on each item. Total the column to determine how much money your gate improvement will cost.

TEACHER DO: Use the example on the first line of the chart to explain the process. Answer any questions students may have. Consider breaking down the instructions into individual prompts if students need more structure to complete the page.

TEACHER SAY: Work with your teammates to list all the items you used and the number of each. Then work independently to find the costs. When everyone in your group is finished, compare answers. Are there any questions?



STUDENTS DO: Ask questions and complete chart.

TEACHER DO: Monitor as students work to complete the cost chart.

TEACHER SAY: Talk among your group. Could you have saved the farmer money by using different materials, or is this the best price for the farmer?



STUDENTS DO: Discuss in groups.

TEACHER SAY: Let's share some of your costs and whether your product is a good buy for the farmer.



STUDENTS DO: Justify the cost of their products.

3. TEACHER SAY: I heard some thoughtful responses. Thank you for thinking about the choices the farmer must make.

TEACHER DO: Determine where around the room groups of three groups can meet, to share final models and cost. Assign three groups to each meeting place.

TEACHER SAY: Now it is time for you to present your final gate closure design and costs to the others who have joined your group. Listen to each other's short presentations. Each student will then give one comment about the group's design and costs.



STUDENTS DO: Share projects and give feedback.

TEACHER DO: Monitor presentations and student comments. When everyone has finished, direct students to return to their own seats with student books. Collect projects for display in the classroom.

4. TEACHER SAY: I am impressed with the work you have done. Let's take a moment to complete the self-assessment. Remember, this assessment measures your own individual work. It does not measure whether you are satisfied with your design. Turn to the page My Self-Assessment.



STUDENTS DO: Complete the self-assessment. (This is an opportunity for students to practice the Life Skill: Self-Management.)

TEACHER DO: If time allows, choose students to share another team's design. They should explain why that design and the cost are one of the best models.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We have learned a lot about connections in this theme. Let's Popcorn some of the things you are most proud of learning and how it relates to making connections.



STUDENTS DO: Share learning.

Rubric Assessment (for teacher use)

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Designs a model of a gate closure with a group, with little individual contribution to the design and function of the product. <i>Vocational Fields A.4.b.</i>	Designs a model of an effective gate closure with a group and contributes basic ideas to the design. <i>Vocational Fields A.4.b.</i>	Designs a model of an effective gate closure with a group and contributes essential, creative ideas to the design. <i>Vocational Fields A.4.b.</i>
	Makes observations about how smaller parts make up an object with support from peers or the teacher but does not apply this concept to the gate closure product. <i>Science D.1.c.</i>	Makes observations about how smaller parts make up an object and attempts to apply this concept to the gate closure product. <i>Science D.1.c.</i>	Makes insightful observations about how smaller parts make up an object and effectively applies this concept to the gate closure product. <i>Science D.1.c.</i>
	Follows the engineering design process and describes how it was used to develop a product with support from peers or the teacher. <i>Science F.1.e.</i>	Follows the engineering design process and describes independently how it was used to develop a product. <i>Science F.1.e.</i>	Leads the group in following the engineering design process, describes how it was used to develop a product in thoughtful detail. <i>Science F.1.e.</i>
	Determines the total cost of the materials included in the model incorrectly or only with support from peers or the teacher. <i>Math B.1.d.</i>	Determines the total cost of the materials included in the model with accuracy. <i>Math B.1.d.</i>	Determines the total cost of the materials included in the model with accuracy. Assists peers in completing this work and applying the strategies learned in math. <i>Math B.1.d.</i>
Quality of Performance	Offers minimal feedback on the effectiveness of a peer's gate closure design. <i>Science A.1.f.</i>	Offers feedback on the effectiveness of a peer's closure gate design, including general ideas for improvement. <i>Science A.1.f.</i>	Offers especially thoughtful feedback on the effectiveness of a peer's closure design, including unique and detailed ideas for improvement. <i>Science A.1.f.</i>
	Takes notes to explain a design and may include diagrams, but the work lacks clarity. <i>Science A.1.g.</i>	Takes notes that include diagrams to explain a design with clarity. <i>Science A.1.g.</i>	Takes notes that include diagrams to explain a design with exceptional clarity and detail. <i>Science A.1.g.</i>
Life Skills	Explains thought processes with little clarity and may have difficulty expressing ideas to peers. <i>Critical Thinking Speaking and Listening A.2.a.</i>	Explains thought processes with clarity when sharing ideas with peers and the teacher. <i>Critical Thinking Speaking and Listening A.2.a.</i>	Explains thought processes with exceptional clarity when sharing ideas with peers and the teacher. Effectively answers questions to further clarify or provide more detail when asked. <i>Critical Thinking Speaking and Listening A.2.a.</i>
	Uses a task list with the support of peers or the teacher. <i>Productivity Vocational Fields A.1.b.</i>	Uses a task list and adjusts it as needed to manage the completion of a model. <i>Productivity Vocational Fields A.1.b.</i>	Uses a task list and adjusts it as needed to effectively manage the completion of a model. Takes on a leadership role and helps organize the group in this work. <i>Productivity Vocational Fields A.1.b.</i>

PRIMARY 3

Multidisciplinary

COMMUNICATION

CONNECTIONS

Chapter 2: Connecting People

Chapter Overview

Connecting People

COMPONENT	DESCRIPTION	LESSONS
 Discover	Students discover ways they can conserve clean drinking water. Students make connections between states of water (solid, liquid, and gas) and the water cycle. Students explore how the water cycle impacts weather and distinguish between weather and climate.	3
 Learn	Students learn how the water cycle can impact climate. Students learn how weather scientists study weather data to better understand a region's climate. Students analyze one region to understand how its location impacts its climate. Students analyze weather data to describe climate.	4
 Share	Students collaborate to create a museum display to explain a habitat's climate and model the water cycle within that habitat.	3

Connection to Issues



Citizenship: We belong. We are part of our communities, country, and the human family. We all have rights and we all have responsibilities.

Globalization: Technology helps us communicate and exchange ideas around the world. We can learn from people around the world and also share our ideas and culture with others.



Life Skills Addressed

DIMENSION	DESCRIPTION
Learn to Know	<p>Critical Thinking:</p> <ul style="list-style-type: none"> Identify subject/topic-related information. Distinguish between different perspectives and points of view. Explain thinking processes.
Learn to Work	<p>Collaboration:</p> <ul style="list-style-type: none"> Respect for other opinions.
Learn to Live Together	<p>Respect for Diversity:</p> <ul style="list-style-type: none"> Solicit and respect multiple and diverse perspectives to broaden and deepen understanding. <p>Empathy:</p> <ul style="list-style-type: none"> Demonstrate empathy in communicating with others.
Learn to Be	<p>Self-Management:</p> <ul style="list-style-type: none"> Review progress in realizing goals. <p>Accountability:</p> <ul style="list-style-type: none"> Provide effective feedback. <p>Endurance:</p> <ul style="list-style-type: none"> Demonstrate deliberation and anger management.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

A. Reading Foundation Skills: Print Concepts

- 1.b. Read and utilize the contents of images, titles, headings, and headlines to predict content of text.

D. Reading Skills: Fluency

- 1.a. Read texts at grade-appropriate difficulty with a level of accuracy and fluency to support understanding.
1.b. Read to express the meaning and style of a text (interrogative, exclamation, or imperative).
1.c. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.

E. Reading Comprehension: Literature

- 1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
1.b. Describe and compare characters in a story (such as their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.
2.a. Determine the central message or lesson of a text and explain how it is conveyed through key details.

F. Reading Comprehension: Informational Text

- 4.a. Ask and answer questions to define the meaning of academic and subject-specific words and phrases.
5.b. Use visual representations and information contained in a text to describe its basic ideas.
6.a. Identify the reasons an author gives to support key ideas in a text.
8.a. Read and comprehend informational text at appropriate difficulty level for Primary 3.

G. Language: Vocabulary Acquisition and Use

- 1.g. Demonstrate command of the conventions of grammar and usage when writing or speaking.

WRITING:

A. Foundational Skills

- 1.a. Write complete sentences using punctuation, prepositions, and coordinating conjunctions (such as ﴿ ،﴿ ،﴿) as appropriate.

B. Narrative

- 1.a. Write narratives to express real or imagined experiences or events, using descriptive details and clear event sequences.
1.b. Write a short descriptive paragraph to introduce a situation, narrator, and/or characters.
1.d. Organize an event sequence that unfolds naturally, using temporal words and phrases to signal event order.

D. Process, Production, and Research

- 1.a. Use graphic organizers to plan writing.

- 1.b. Utilize questions and suggestions from peers to strengthen writing.
1.c. Review and revise personal writing to strengthen it.

SPEAKING AND LISTENING:

A. Foundational Skills

- 1.a. Engage effectively in a range of collaborative discussions with peers and adults in small and larger groups.
1.b. Follow agreed-upon rules for discussions.
1.c. Listen to the speaker with interest and attention until the end of the statement or story.
1.e. Listen to speakers in order to make connections; comprehend; and gain, clarify, or deepen understanding of a topic or issue.
1.f. Build on others' ideas in discussion and express own ideas clearly.

SCIENCE:

F. Engineering Design and Process

- 1.a. Explain the characteristics and scope of technology, with support.
1.b. Explain the role of society in the development and use of technology, with support.
1.f. Assess the impact of products and systems, with modeling and support.

SOCIAL STUDIES:

C. Understanding the World from a Spatial Perspective

- 2.c. Explain how transportation connects people, places, and ideas.
2.d. Identify reasons for why people move from one community or region to another.

D. Human Systems

- 1.a. Explain the differences and relationships between producers and consumers.
2.a. Compare various methods of exchanging goods and services (such as bartering or monetary exchange).
2.b. Describe how and why people trade goods and resources around the world.
2.c. Explain how various forms of transportation can facilitate trade.

ECONOMICS AND APPLIED SCIENCES:

A. Family Relationships and Safety in the Community

- 2.b. Explain the importance of showing consideration and respect for teachers, family members, friends, peers, and other individuals.

VISUAL ART:

A. Producing Visual Art

- 2.c. Add details to a work of art to enhance what is communicated.

B. Presenting Visual Art

- 1.b.** Describe what a personal piece of art is intended to express.

VOCATIONAL FIELDS:**A. Career Social Skills and Preparation**

- 1.a.** Identify and demonstrate good interpersonal skills at school and home (including in different vocational activities).
- 1.b.** Work cooperatively with a group of students to accomplish a task (including tasks related to vocations).

INFORMATION AND COMMUNICATION TECHNOLOGIES:**D. A. Essential Concepts and Processes**

- 1.a.** Compare and contrast the functions of different computer concepts, including hardware, software, and connectivity.
- 1.b.** Explain simple fundamental concepts in computer technology (such as operating systems and network systems).
- 1.c.** Explain how digital technologies can improve and develop how we live and work (such as through organization, time management, and communication tools).

B. Security and Safe Use

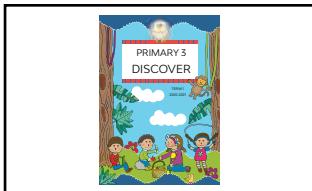
- 1.a.** Describe the safe and responsible use of various offline and online communication tools.

Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	DISCOVER: Students will: <ul style="list-style-type: none">Identify connections between people in a community.Identify ways and reasons people connect.Brainstorm challenges people face in staying connected.
2	DISCOVER: Students will: <ul style="list-style-type: none">Explore how technology has changed over time.Identify problems that specific technologies solve.Brainstorm new ways people may connect in the future.
3	DISCOVER: Students will: <ul style="list-style-type: none">Identify reasons people need transportation.Explain why people trade and how transportation makes trading easier.
4	LEARN: Students will: <ul style="list-style-type: none">Describe components of a transportation system.Identify factors engineers consider when designing a transportation system.
5	LEARN: Students will: <ul style="list-style-type: none">Identify advantages and disadvantages of new transportation technology.Use magnets to model how a maglev train works.Imagine new technology to include in a “smart” city.
6	LEARN: Students will: <ul style="list-style-type: none">Skim a reading passage for details.Determine components of a computer and their functions.Analyze information and justify responses.
7	LEARN: Students will: <ul style="list-style-type: none">Identify a problem and possible solution in a story.Debate issues, listening and responding respectfully to others.Use evidence to support an argument.
8	SHARE: Students will: <ul style="list-style-type: none">Create a plan to work collaboratively.Design a solution to a problem.Acknowledge peers’ contributions to group work.
9	SHARE: Students will: <ul style="list-style-type: none">Communicate ideas within a group to improve a design.Be creative in determining the setting for a futuristic story.Convey a message using art as the medium.
10	SHARE: Students will: <ul style="list-style-type: none">Acknowledge the importance of creativity in writing.Use the writing process to create a futuristic story that relates to the design solution.Self-assess learning and management of goals.

Materials Used

Student book



Pencils



Lesson 1

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Identify connections between people in a community.Identify ways and reasons people connect.Brainstorm challenges people face in staying connected.	<ul style="list-style-type: none">CommunityConnections <p>LIFE SKILLS</p> <p>Learn to Work</p> <p>Collaboration:</p> <ul style="list-style-type: none">Respect for other opinions.	<ul style="list-style-type: none">Student booksPencilsCrayonsChart paper



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: Today we are going to begin a new chapter in our theme, "Connections." We have learned about how forces can connect things. Our new chapter is titled, "Connecting People." What do you think we will learn?

STUDENTS DO: Share ideas.

TEACHER DO: Lead a class discussion about what it means for people to connect. Include questions to uncover what students understand about different reasons people have and methods they use for staying connected. Ask questions such as:

- What does it mean when we say people can connect?
- Who can share an example of a time they connected with a family member or friend?
- What are some reasons that people would want to connect?
- What are some ways that people can connect in person? When far apart?

2. TEACHER SAY: Sometimes connecting is easy for people, like sharing something exciting that happened at school with a parent. Sometimes connecting is more challenging, like when a relative lives far away. In this chapter, we are going to identify a problem, or a need people have, with connecting and invent a solution for it. We will study the reasons people connect, and encounter many different ways to connect, including using new inventions. Let's begin by thinking about our own communities. Turn to the page in the student book My Community. Read the directions to yourselves first, then we will discuss the page together.

STUDENTS DO: Read the directions on the page.

TEACHER SAY: You will have a few minutes to draw a picture that shows a community where you enjoy making connections. This community can include your family, friends, school, or other people and places you think should be included. I will give you further directions when you are finished.

STUDENTS DO: Draw pictures of communities.

TEACHER SAY: Now let's **Hands Up Pair Up** to share your drawings. The student you share

with will add one thing to your drawing of a community. We will do this four times. Let's begin.

TEACHER DO: Signal for students to find new partners, allowing time to add to the drawings of communities.



STUDENTS DO: Share ideas and add to community drawings.

TEACHER DO: Signal for students to return to seats.

TEACHER SAY: Thank you for sharing your work and being respectful as you added to others' drawings. It is now time to complete the bottom of the page. Write a sentence to describe what it means for people to connect in the community you drew.



STUDENTS DO: Write an explanation.

TEACHER SAY: Now share your thoughts with a **Shoulder Partner**. Listen carefully to what your partner says. I will ask you to share his or her ideas instead of your own.



STUDENTS DO: Share ideas and listen carefully to others' answers.

TEACHER SAY: Let's share with the whole class. I will choose three students to share what another student said. Be sure to tell us, respectfully, whether you agree or disagree with your partner and why.

Collaboration



STUDENTS DO: Share and respond to others' ideas. (This is an opportunity to practice the Life Skill: Collaboration.)

3. TEACHER SAY: Thank you for sharing. We can see that connecting with people does not mean just one thing. We connect with people through our relationships or we might connect with others to exchange things, such as food or information. Let's think about all the different people we may connect with in the community.

TEACHER DO: Write "me" on the board. As students share ideas, record the various people students connect with on the board as a **Web** around ME (parents, siblings, friends, teachers, doctors, and so on).

TEACHER SAY: Let's think more about these connections. How do we connect with these people? Why do we connect with them? Please turn in your student books to the page **Connecting People Web**. Follow along as I read the directions aloud.



READ ALOUD: In each circle, write the name of someone you connect with in the community. On each line, write how and why you connect with that person.

TEACHER DO: Provide an example of the how and why information if needed, such as: I call my sister on the phone every evening. The reason we connect is because we have fun talking. Other reasons may be to answer a question for work or school, to buy something, or to receive a service. Assist students with recording these ideas as needed.



STUDENTS DO: Record ideas on **Web**.

4. TEACHER SAY: We thought about many different ways and reasons people in our community connect. It may be easy to stay connected with your family at home and friends you see at school. But what about connecting with people farther away? Or the people you do not see every day? These connections can be more challenging. What ways can people connect across a distance?



STUDENTS DO: Share ideas.

TEACHER DO: Note student answers that involve computer or transportation technologies.

TEACHER SAY: Many of the ways you mentioned are examples of modern technology. New inventions often happen when people first identify a problem or a challenge. Then they design a solution for that problem. Turn to the page **Connection Challenges**. Read and follow the

directions. When you are finished, please compare your ideas with your **Shoulder Partner**.



STUDENTS DO: Complete the page and share with **Shoulder Partner**.

TEACHER DO: Walk around and help students as needed. If time allows, facilitate sharing some ideas as a whole class once most students are finished.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Thank you for working hard today. You have identified many important challenges people may face with staying connected to each other. Which challenge or problem are you most interested in solving? Talk with a different **Shoulder Partner**.



STUDENTS DO: Share with **Shoulder Partner**.

TEACHER SAY: In our next lesson, we will think more about how we can create solutions to these challenges for our Share Project. I am excited to see what everyone designs.

Lesson 2 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Explore how technology has changed over time.Identify problems that specific technologies solve.Brainstorm new ways people may connect in the future.	<ul style="list-style-type: none">Technology	<ul style="list-style-type: none">Student booksPencilsCrayons
	LIFE SKILLS	
	Learn to Know	



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our last lesson, we identified who we connect with in the community and also how we connect with them. Raise your hand if you recall two ways we connect with others and why?

 **STUDENTS DO:** Share ideas.

2. TEACHER SAY: Thank you. These are just two examples of the many that we shared in our previous lesson. We also started thinking about the challenges we face when connecting with others. Identifying these challenges is the first step in designing solutions. Solutions often include technology. Who remembers what the word TECHNOLOGY means?

 **STUDENTS DO:** Share definitions from memory.

TEACHER SAY: Yes, we can think of technology as anything that is a tool designed to solve a problem. Technology inventions are not always new ways to solve problems. Sometimes inventions just improve on old ways to solve a problem. Many inventions build on, or modify, existing ideas or products. Let's explore this further. Please turn in your student books to the page Technology Through Time.

 **READ ALOUD:** Cut out each card. Arrange each set of cards in the order in which the technology was invented.

 **STUDENTS DO:** Cut out cards and arrange them in chronological order.

TEACHER DO: Allow time for students to cut out and sequence the cards chronologically. Circulate around the room to assist and observe students. Students may complete the task independently or with a partner.

TEACHER SAY: Great job sequencing the cards. Let's share our work as a whole class. As you listen to your classmates share, see if you agree or if you think you should change the order of your cards.

TEACHER DO: Use **Calling Sticks** to have a few students share how they sequenced the cards. Allow time for students to revise their cards as needed.



STUDENTS DO: Share ideas.

3. TEACHER SAY: Thank you for listening carefully as your classmates shared. Each card shows a piece of technology that was designed to solve a problem. Let's think about what those problems might have been and how the technology helped to solve it. Please turn to the page Problems and Solutions. Read the directions silently and work with a **Shoulder Partner** to fill in each box.



STUDENTS DO: Read and follow directions.

TEACHER DO: Circulate around the room as students work and assist as needed.

TEACHER SAY: Great job identifying the problems that each type of technology helped to solve. Let's share your ideas using **Shake It Share It High Five**.



STUDENTS DO: Share ideas with one or two other students.

TEACHER DO: Facilitate a classroom discussion about the problems identified, prompting students to extend their thinking to include topics of basic use as well as potential issues of safety.

TEACHER SAY: We know that no invention is perfect. New problems may be identified, and the technology can change again to meet the new needs of the people who use it. Even when one problem is solved, there may be some disadvantages to the new technology. Let's look closer at the cards you sorted in Set 2. These objects serve the same purpose. Raise your hand if you can tell us what that purpose is.

TEACHER DO: Choose students with raised hands until the correct answer is given (transportation).

TEACHER SAY: Very good. Each of these cards show us a car, which is used for transportation. The first cars were designed to meet a need or solve a problem. What do you think that was?



STUDENTS DO: Share ideas.

TEACHER DO: Accept all reasonable answers. Some examples include moving from one area to another, visiting other people, trading goods and services, and so on.

TEACHER SAY: Yes, there may be many reasons why someone would invent a car. Looking at the whole set, we can see how people made improvements to the idea each time. Please turn in your student books to the page Advantages and Disadvantages. Read the directions silently and then work with a **Shoulder Partner** to complete the chart.



STUDENTS DO: Record ideas with **Shoulder Partner**.

TEACHER SAY: Great thinking. Let's record your ideas on the board. As students share, place a checkmark next to any idea you also wrote in your student book.

TEACHER DO: Allow time for students to share ideas. Record responses on the board.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We can see that technology helps us solve problems, but there may still be challenges and things that can be improved. Let's use what we now know about the word TECHNOLOGY and record our ideas about this vocabulary word. Please turn in your student books to the page Vocabulary: Technology. This page should look familiar. Work on your own to read the directions and complete the page. When you are finished, please compare your ideas with your **Shoulder Partner**.



STUDENTS DO: Complete the vocabulary page and share with **Shoulder Partner**. (This is an opportunity to practice the Life Skill: Critical Thinking.)

TEACHER DO: Walk around and help students as needed to complete the vocabulary page.

Lesson 3

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Identify reasons people need transportation.Explain why people trade and how transportation makes trading easier.	<ul style="list-style-type: none">BarterTrade	<ul style="list-style-type: none">Student booksPencilsCrayonsScissorsIndex cardsChart paperSmall paper bags
PREPARATION	LIFE SKILLS	
<p>Prepare a set of transportation cards for the trading simulation game. You will need 10 cards of each type of transportation: boat, car, airplane, camel. Sample cards have been provided for you at the back of the Teacher's Guide. Label small paper bags with the four symbols from the trading map: circle, square, triangle, star. Make an equal number of bags for each region. Each pair of students will need one bag. Post four signs around the room, one for each region (circle, square, triangle, star) in the trading simulation game.</p>	<p>Learn to Work</p> <p>Collaboration:</p> <ul style="list-style-type: none">Respect for other opinions. <p>Learn to Be</p> <p>Endurance:</p> <ul style="list-style-type: none">Demonstrate deliberation and anger management.	



Discover (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our previous lesson we reviewed the idea that technology is a solution to a problem. We also explored how technology can be a new invention but often it is simply an improvement on something already created. Turn to a **Shoulder Partner** and share one example of a technology that has been improved over time.



STUDENTS DO: Share ideas with a partner.

TEACHER SAY: So far, we have been considering how various technologies can help solve problems and connect people. For the next few days, we are going to focus on technologies in transportation. How do you think transportation relates to our chapter topic of connecting people?



STUDENTS DO: Share ideas.

TEACHER SAY: Learning about transportation technologies will help us prepare for our **Share Project** of inventing new technology that connects people. How do you think it might help?



STUDENTS DO: Share ideas.

2. **TEACHER SAY:** Maybe we will get ideas about the type of technology we want to invent or improve. Let's begin by reading an article on transportation. Before we start, think about the types of transportation you have used before. What are they? Why did you use that transportation?

TEACHER DO: Choose several students using **Calling Sticks**.



STUDENTS DO: Share ideas.

TEACHER SAY: Thank you for sharing your experiences. We have been considering the needs people have and how technology can provide solutions. Let's learn about transportation needs. Open your books to the page **Why People Need Transportation**. Follow along as I read the directions aloud.



READ ALOUD: Read the article on transportation with a partner. Underline reasons people need transportation as you read.



STUDENTS DO: Read and underline reasons people need transportation with **Shoulder Partner**.

TEACHER SAY: Let's discuss the passage and share what we learned about transportation from our reading. Did you read about some of the reasons you have used transportation?

TEACHER DO: Call on students with raised hands and record the reasons on the board or chart paper. Facilitate conversation to informally assess student comprehension using questions such as:

- Why is transportation needed when taking a trip?
- Why would someone need transportation to trade goods and services?
- What is one reason adults use transportation?
- What is one reason young people use transportation?

3. TEACHER SAY: You obtained a lot of information from this passage. Well done. We read that one reason people need to connect is for trade. Let's spend some more time exploring this. We are going to play a game that will help us understand why people trade and the role transportation plays in trade. Please turn in your student books to the page **What People Trade**. Read the directions silently.



STUDENTS DO: Read directions.

TEACHER SAY: These cards show various items that people may want or need. What do you notice about the cards?



STUDENTS DO: Share observations.

TEACHER DO: Call on several students to share ideas. Students may notice that some of the images are goods (food, other supplies) and some of the images are services (building, sewing).

TEACHER SAY: Please cut out the cards from this page neatly. As you cut them out, please keep them sorted according to the picture on the card. Then I will give you the next directions.



STUDENTS DO: Cut out cards.

TEACHER DO: Assist students as needed.

TEACHER SAY: You are going to work with a partner. Each pair will be from one part of Egypt. Turn to the next page **Trading Map**. I will tell you which region you will represent. When you know your region, circle it on the map.

TEACHER DO: Split the class into four groups and assign a region to each group.

TEACHER SAY: The next step is to look at the goods and services that are shown in your region on the map. These are the cards you will keep with you when we begin the game. I will collect the other cards.



STUDENTS DO: Identify cards to keep and return remaining cards to the teacher.

TEACHER DO: Collect cards and redistribute to teams based on the region they are in. Within each region, students will work with a partner. Give each pair a small paper bag in which to place their trading cards. Each bag should be labeled with the shape from the corresponding region on the

map. Before playing the game, physically divide the class into four sections.

TEACHER SAY: The cards you have in your bag are the goods, services, and money you have to trade with others. Take a moment to look at the map in your student book. Why do you think would someone want to trade goods or services with others?



STUDENTS DO: Share ideas.

TEACHER DO: Encourage students to consider the idea that each person may not have the same goods and services to begin with.

TEACHER SAY: Those are wonderful ideas. You will notice that each team does not have the same goods and services to start the game. There may be a chance that you need or want the goods found in another region. For example, if you need salt for cooking or preserving food, you may want to trade with someone from the western desert region. How might you be able to get the salt you need? How can you convince someone to make a trade with you?



STUDENTS DO: Share ideas.

TEACHER SAY: As you play, you will have to decide what makes a trade worth it. If someone wants to trade your gold necklace for one of their fish, do you think that is a fair trade? Why or why not?

TEACHER DO: Call on several students to share ideas using **Calling Sticks**.

TEACHER SAY: Now you will have the opportunity to trade with other teams. We will play the game in two rounds. For the first round, you may trade any or all of the contents of your bags, but you may only trade with teams in your own region. No one is required to trade if they do not want to.



Collaboration



Endurance



STUDENTS DO: Trade cards with other teams. (This is an opportunity to practice the Life Skills: Collaboration and Endurance.)

TEACHER DO: Circulate around the room and assist teams with trading. Be sure students are not crossing to another part of the room. Allow several minutes for students to trade and then bring the class back together.

TEACHER SAY: Thank you for working so well together. It was exciting to hear your conversations as you tried to convince others to trade with you. Raise your hand if you traded with another team.



STUDENTS DO: Raise hands.

4. TEACHER DO: Lead a class discussion about the experience students had with round one. Including questions such as the following:

- If you made a trade, why did you decide to trade?
- If you did not make a trade, why not?
- Are you happy with what you have in your bag now? Why or why not?
- What restrictions did you have on trading? What effect did that have on your team?

Looking closely at the map, what might be a reason that you could not trade with teams on the other side of the room? (Students can refer to the map to see that distance over land, water, or difficult terrain may make it impossible to trade without some type of transportation to help.)



STUDENTS DO: Share ideas.

TEACHER SAY: We will now conduct one more round of trading. This time, you will be able to connect with teams in all regions to trade. But in order to trade with some of the regions, you will need to use different forms of transportation. Getting or using transportation will cost you, so you will need to decide what you will trade to do that. I will act as the “transportation banker.” If you want to use a form of transportation, you must come to me and ask to trade some of your goods for a form of transport. After you receive one type of transportation, you may use it for the remainder of the game.



Collaboration



Endurance



STUDENTS DO: Trade cards with other teams. (This is an opportunity to practice the Life Skills: Collaboration and Endurance.)



TEACHER DO: Be sure students are only crossing to another part of the room if they have the appropriate type of transportation. The teacher acts as the “transportation banker.” Teams must trade goods and/or money to purchase or use transportation. Allow several minutes for students to trade and then bring the class back together.

TEACHER SAY: Wow. I heard many great discussions as you traded with all regions around Egypt. Raise your hand if you made a trade in this round.



STUDENTS DO: Raise hands.

TEACHER SAY: I noticed that there were times that you traded one good for another and other times that you traded money for a good. Today, goods are usually purchased with money; however, people still do trade one good for another. This is called BARTERING, and it has existed since ancient days before the concept of money even existed.

5. TEACHER DO: Lead a class discussion about the experience students had with round two. Including questions such as the following:

- If you made a trade with a team on the other side of the room, why did you decide to trade?
- How did you decide which item you wanted to get from other teams? Or which item(s) you were willing to give up?
- Was there a difference in your experience trading items and trading money?
- How did the addition of transportation options affect your trading?
- How do you feel about what is in your bag now compared to what was in it at the beginning of the game?

After the class discussion is complete, collect the cards and bags and have students return to seats.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: You have had some good discussions about trade and transportation today. Now, turn to your table group and discuss what type of transportation you would need to connect with another team in another part of the world to trade goods and services.



STUDENTS DO: Form groups and share ideas.

TEACHER SAY: Thank you for all of your hard work today. In our next lesson, we will learn more about how transportation helps to connect us to others.

Lesson 4

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Describe components of a transportation system.Identify factors engineers consider when designing a transportation system.	<ul style="list-style-type: none">System	<ul style="list-style-type: none">Student booksPencilsCrayonsChart paper



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our last lesson, we learned that trade is one important reason that people use transportation to connect. Let's read a story about Rashad to review another reason people use transportation. Please open your student books to the page Getting to Zeina's House. Please read the story to yourself as we read it aloud in class together.

TEACHER DO: Choose students to read out loud, one sentence or one paragraph at a time. Remind students to read with emotion.

STUDENTS DO: Read story.

TEACHER DO: Lead a discussion on the story to ensure student understanding and practice reading strategies, such as citing the text when answering questions and comparing characters. Questions could include:

- Where did Rashad want to go and why?
- Why was Rashad's mother unable to drive him to Zeina's?
- Why was Rashad unable to walk to Zeina's?
- What types of transportation did Yasmeen suggest? Were they good options?
- What type of transportation would you suggest Rashad use?

STUDENTS DO: Analyze the text and share ideas.

2. TEACHER SAY: Thank you for sharing. Let's think more about how Rashad decided to choose the type of transportation that he did. Not every type of transportation works in all situations. It is important to consider where you are going and what you need to take with you. Please turn in your student books to the page Meeting People's Needs. Read the directions to yourself and then follow those directions.

STUDENTS DO: Read and follow directions in student book.

TEACHER DO: Lead a class discussion on when and why people would choose to use each type of transportation in the passage, including questions such as the following:

- Which type of transportation would be good to use if you were visiting your friend down the street? Why?
- Which types of transportation could you use if you wanted to connect with people on the other side of an ocean? Why?
- Which type of transportation is best to use if you needed to transport goods that weigh a lot?



STUDENTS DO: Share ideas.

3. TEACHER SAY: In a city like Cairo or Alexandria, you would find cars, bicycles, buses, trucks, trains, boats, and airplanes. These are all part of a transportation system. A SYSTEM is simply a set of things that work together for a common purpose. There are many types of systems. Earlier this year we learned about systems in our bodies that work together to keep us healthy. Transportation systems work together to keep people and goods moving.

TEACHER DO: Write the various types of transportation mentioned in a list on the board.

TEACHER SAY: How do you think these different parts work together in a large city to support the community?



STUDENTS DO: Share ideas.

TEACHER SAY: Good thinking. A transportation system is a collection of people and machines that work together to transport passengers and cargo. In addition to the airplane transportation system, there are transportation systems that involve highways, railroads, bus routes, and subway lines. What parts make up a transportation system we use in our local community?



STUDENTS DO: Share ideas.

TEACHER DO: Decide on a transportation system that is common in your community. As students think through all of the parts of which it is comprised, make another list on the board. If you live in Cairo, narrow students' focus to a smaller neighborhood or region of the city so that not all options previously listed would be applicable.

TEACHER SAY: All of the many transportation systems we have are connected. How do you think the transportation systems in our community connect us to people both near and far? Let's use some **Think Time** first, then you may share your thoughts with your group.



TEACHER DO: Signal time for group discussion. Bring students back together after they have had time to discuss. This is an opportunity for students to practice the Life Skill: Critical Thinking.

TEACHER SAY: If I call on you, tell the class something one of your friends said. Be sure to use specific examples in your explanation.



STUDENTS DO: Share ideas.

TEACHER SAY: Thank you for sharing your ideas. Transportation systems are everywhere. It takes a lot of thought and planning to design a system that works smoothly. Let's read more about how engineers design these systems. Turn to the page titled Designing Transportation Systems. We will read the article aloud together.

TEACHER DO: Use **Calling Sticks** to choose students to read the article, each reading a few sentences. If needed, read the article out loud to the class.



STUDENTS DO: Read along.

TEACHER DO: Lead a discussion of the article, including questions such as the following:

- What is the first thing an engineer does using the design process?
- What factors are listed that an engineer considers when designing a transportation system? (location, who will use the system)
- What other factors can you think of that an engineer might consider? (cost, climate, and so on).
- What similarities are there between the process described in the article and how we use the Engineering Design Process in our classes?

4. TEACHER SAY: Can you believe how much work goes into designing systems? There are so many factors to consider. We are going to think through a few more examples of transportation systems to see if we can think like an engineer. Turn in your student books to the page Transportation System Diagram. Read the directions silently, and then we will discuss together.



STUDENTS DO: Read directions silently.

TEACHER SAY: This page shows us a diagram an engineer may use when working through the PLAN phase of the engineering design process. Let's go through the diagram together. Who can read the NEED for us?

TEACHER DO: Call on a student to read the NEED aloud.

TEACHER SAY: Thank you. We have identified a need in the community: to connect people in different countries around the world safely. For this example, we are going to look at the system that uses airplanes. Let's look at box 1, LOCATION. This box lists where the airplane transportation system will be used. It also includes advantages or disadvantages of the location.

TEACHER DO: Call on a student to read the LOCATION box aloud.

TEACHER SAY: Thank you. These are just a few things to consider with the location; there may be many more. Now let's look at box 2, USERS. This box lists who, or what, will use the airplane transportation system. Again, these are just a few examples. Who can read this box aloud for us?

TEACHER DO: Call on a student to read the USERS box aloud. Continue discussing the rest of the diagram, reviewing the purpose and examples given in each box.

- Box 3: RESOURCES NEEDED, lists the major things and people needed to make the system work.
- Box 4: RESULTS, lists what will happen when we use this transportation system.
- Box 5: FEEDBACK, shows what we will consider in order to find out if we have met our need, or goal. We need to look at how well the system is working and also identify any issues we have. Then we can use this feedback to change our other factors and improve the system.

TEACHER SAY: Now it is your turn. On the next page there is a blank diagram. Choose another transportation system that works on land or in the water. Maybe you want to design a transportation system so that everyone in this school could go on field trips, or everyone in this class could visit each other's homes more quickly than walking from one to the next. With a **Shoulder Partner**, fill out each of the boxes in the diagram.



STUDENTS DO: Fill out the diagram using an example of a transportation system on land or in the water. (This is an opportunity to practice the Life Skill: Critical Thinking.)

TEACHER DO: As students are working, walk around to help them understand how to fill out the diagram. Remind them that they can look at the example diagram if they need help remembering what to write in each box.

Note to Teacher: Transportation systems are not just for larger vehicles like cars, planes, and trains. In countries such as the Netherlands, Japan, and China, bicycles and the transportation systems that support bicycle travel are a matter of national importance. Many cities have built dedicated bike paths or bike lanes on highways. Other cities have adopted bicycle share programs that allow commuters and others to use bicycles as needed.

TEACHER SAY: Please share your transportation system diagram with a new partner. Explain what you included in each box and why. Listen carefully to each other.



STUDENTS DO: Explain transportation system diagrams to **Shoulder Partner**.

TEACHER DO: Walk around and listen to students as they explain the diagrams. Encourage students to provide reasoning for their choices.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Everyone has been working very hard today, analyzing different transportation systems used in Egypt and around the world. For our closing today, talk with your **Shoulder Partner** to answer the question: How did you work today as an engineer?



STUDENTS DO: Share ideas with a partner. (This is an opportunity to practice the Life Skill: Critical Thinking.)

TEACHER SAY: Thank you for sharing. In our next lesson, we will learn about transportation innovations that engineers are designing to make transportation systems work even better.

Lesson 5 Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Identify advantages and disadvantages of new transportation technology.Use magnets to model how a maglev train works.Imagine new technology to include in a “smart” city.	<ul style="list-style-type: none">HyperloopInnovationMaglev train	<ul style="list-style-type: none">Student booksPencilsCrayonsCircular magnets (with holes, shaped like a donut)Chart paper
PREPARATION		LIFE SKILLS
<p>If circular magnets are not available, students can try to balance one magnet on top of another by facing opposite poles together.</p>		Learn to Work
<p>Collaboration:</p> <ul style="list-style-type: none">Respect for other opinions.		



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today’s lesson.

TEACHER SAY: In our last lesson, you created a diagram to show different parts of a transportation system. To start today, let’s share a few of those systems. I will choose students to share with **Calling Sticks**.

TEACHER DO: Call on three or four students to share.

STUDENTS DO: Share transportation systems.

2. TEACHER SAY: Great job recalling the systems you diagramed. We learned that the feedback we get from using a system may tell us that we have to revise the system. We might need new or more resources, or we might need to better understand who the users are. This is an opportunity for engineers to use innovations to make the systems work even better. Let’s revisit something we explored in our last chapter to see if we can use what we learned to imagine an improvement to a transportation system. Please turn in your student books to the page **Floating Magnets**. Read the directions silently.

STUDENTS DO: Read directions.

TEACHER DO: Answer any questions students have about the instructions and then distribute materials to each small group.

STUDENTS DO: Set up the investigation and record observations.

TEACHER DO: As you circulate around the room, encourage students to push one magnet toward the other to feel how the force of the magnets repelling increases as the two magnets are pushed closer together. Students may feel this force almost like a spring between them.

TEACHER SAY: That was exciting. I love watching how the magnet floats in air. It might look like magic, but of course we know there is a scientific reason this happens. Who can remember the scientific term for the reason the magnet floats?

TEACHER DO: Accept either “repel” or “magnetic force/field” as correct answers, then facilitate discussion to have students describe why one magnet floated using these two scientific terms.



STUDENTS DO: Share ideas.

TEACHER SAY: We cannot SEE a magnetic field, but we can see its effect. What evidence did you see that a magnetic force exists?

TEACHER DO: Allow **Think Time** and then call on students with raised hands until the correct answer is given. (There is a gap between the two magnets that cannot be closed.)

TEACHER SAY: What do we know about magnets that makes this happen?



STUDENTS DO: Share ideas (such as like poles attract and opposite poles repel).

TEACHER SAY: Today, we are going to learn about how magnets connect to transportation. Think about a type of transportation you use. Do you think magnets are a part of the design? Do you think that type of transportation could be redesigned to use magnets? Talk with a **Shoulder Partner** about your ideas.



STUDENTS DO: Share ideas with partners.

3. TEACHER SAY: Engineers use their understanding of how things work, such as how magnetic poles work, to create new technology and innovations to solve problems. Let's learn about some of these innovations. Please turn in your student books to the page Transportation Innovations. Let's read the directions together.



READ ALOUD: Read the article with your teacher. First, find the innovations that use magnets in the design. Then, read the article again and circle the advantages and underline the disadvantages of each innovation.

TEACHER SAY: Let's read the article together. Follow along as I read aloud. Whenever you hear how magnets are used, give me a **Thumbs Up**.



STUDENTS DO: Follow along and show **Thumbs Up**.

TEACHER DO: Read the article aloud. Pause to explain unfamiliar words if needed.

TEACHER SAY: Thank you for following along as I read. We heard magnets mentioned several times. It is so interesting to hear how engineers have found creative ways to use magnets in transportation. Now I would like for you to read the article again with a **Shoulder Partner**. This time circle the advantages and underline the disadvantages of each innovation.

Note to Teacher: The following work can be completed individually, in partners, or together as a whole class.

TEACHER DO: Read the first paragraph and image caption together. Identify the advantages of longer distances in less time, low cost, and carrying cargo. Identify the disadvantage of not enough speed. **Model** highlighting this information.

TEACHER SAY: Now, continue reading the article, circling the advantages and underlining the disadvantages of the remaining two types of transportation innovations.



STUDENTS DO: Read the article, locating and circling or underlining information.

TEACHER DO: After students have completed reading, circling, and underlining, use **Calling Sticks** to have students share the examples they found. Ask students to identify which section the information is in (under which subheading) so that other students can easily locate the same information. Chart student answers at the front of the room. Create a **T-Chart**, with one side labeled “Advantages” and the other side labeled “Disadvantages.”

4. TEACHER SAY: Thank you for identifying so many advantages and disadvantages of new transportation innovations. Communities need to consider all of the advantages and

disadvantages to find the right type of transportation that works for them. Let's talk about how communities might make decisions about transportation.



STUDENTS DO: Share ideas.

Note to Teacher: For example, if a community has a large number of people who like to ride bicycles, the city might build bike paths and create a system for securely parking and storing bicycles. Some communities continue to build new roads and highways for travel by cars, buses or trucks. But when the cost of gasoline continues to go up, cities are looking for new ideas to help. The innovations we just read about might be expensive, but many large cities are building them because they transport people quickly and without using gasoline. Many cities are looking for alternatives to car/bus/truck travel that is low-cost, uses no gasoline or electricity, and helps keep people healthy.

TEACHER SAY: There is an exciting project happening in Egypt. A new capital is being built and it will include innovations, many of which include transportation. Engineers are also using new technology to keep people safe. Let's apply what we have been learning about innovations to a new context. Turn in your student books to the page Building A New Capital. Read the directions and then follow them with a **Shoulder Partner**.



STUDENTS DO: Read and answer the question with partners.

Note to Teacher: This article has words that may be familiar to students when read out loud but that students may not recognize in written form. Consider using a prior strategy, such as circling and discussing unknown words, before pairs work together to read the article.

TEACHER SAY: Good job reading together. We learned about a few of the innovations that will be in the new capital. Let's think about what some of the advantages and disadvantages may be for each of the ideas we read. First, we need to list each innovation. Raise your hand if you can name one for us.

TEACHER DO: Call on students to name the innovations in the article (sensors for smoke and fire, traffic and accident monitors, airport security, baggage scanners, digital money only) and list them on the board as students share. Then lead a class discussion about the advantages and disadvantages of each item on the list, recording as students share.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: We learned so much about transportation innovations today. It is exciting to think about what the future will look like. You did a wonderful job using your imaginations to think about the type of technology you would like to see in the new capital. For a closing today, we are going to use **Hands Up Pair Up** to share your ideas.



STUDENTS DO: Find a partner, listen, and share ideas.

TEACHER DO: Repeat the process once or twice more, allowing time for both students to share.

Lesson 6

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Skim a reading passage for details.Determine components of a computer and their functions.Analyze information and justify responses.	<ul style="list-style-type: none">Central processing unit (CPU)InputMemoryMotherboardOutputSkimStorage	<ul style="list-style-type: none">Student booksPencilsIndex cardsThree pieces of chart paperSticky notes (optional)
PREPARATION		LIFE SKILLS
Write the following titles on three pieces of chart paper for the lesson's closing: Transportation, Communication, Other Ideas. Read through the simulation in step 5 to make sure you understand the steps students will demonstrate.		Learn to Know
		Critical Thinking: <ul style="list-style-type: none">Identify subject/topic-related information.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the last few lessons, we focused on how transportation helps us stay connected. We learned about ways our government has designed a new capital. Part of the design had to include transportation. Let's think: What would you do to make travel in a new capital easier? Let's **Hands Up Pair Up** and find a new partner to talk with.

STUDENTS DO: Share with partners.

TEACHER DO: Monitor conversations, listening for new ideas about innovations.

2. TEACHER SAY: It seems that whenever we talk about new ideas, it also involves some sort of new technology. One form of technology you are all probably very familiar with is the computer. The computer has been very important to the development of technology over time. How do you think computers have helped us stay connected?

STUDENTS DO: Share ideas about connections made because of computers.

TEACHER DO: As students are sharing ideas, write responses on the board. If students reference cell phones, tablets, or other tools, list them separately.

TEACHER SAY: You have named quite a few connections we are able to make because of the computer. There are many parts to a computer that help it complete a job. Let's learn about the major parts of a computer system. It is fun to be engineers and learn how things work. Turn to the next page in your student book, *The Parts of a Computer*. Read the directions and review the pictures. Do any of the images look familiar?

STUDENTS DO: Turn to the page and review pictures.

TEACHER SAY: Look over the pictures with your **Shoulder Partner**. Work together to see how many of the pictures you can identify.



STUDENTS DO: Discuss pictures.

Note to Teacher: This is an opportunity to observe students' prior knowledge. If no pictures look familiar, ask students why that might be the case. (Many of these images show parts that are inside a computer, so if a student has never taken a computer apart, they would be unfamiliar.)

TEACHER SAY: What do you think you might learn in the text below the images?



STUDENTS DO: Predict they will learn about the parts of a computer.

3. TEACHER SAY: Let's see if you are correct. The text will help us understand the pictures. First, let's skim the text for words you may not know. Who would like to **Model** for the class how to skim a text?

TEACHER DO: Choose a student volunteer to demonstrate skimming. Ask the student volunteer to **Model** using a finger to move quickly across the text, stopping at an unknown word.



STUDENTS DO: **Model** and observe skimming.

TEACHER SAY: Thank you for modeling for us. Now it is your turn to find words you may not know or understand. Please circle the words and we will discuss them together.

TEACHER DO: Write the words on the board and help students decode. If the word is one that is defined in the text, tell students the reading will help them define it.

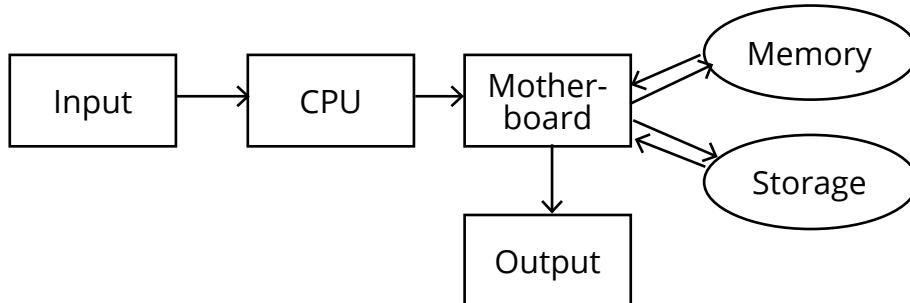


STUDENTS DO: Share unknown words.

TEACHER SAY: Read independently and then with your **Shoulder Partner**. Remember that you are reading an informational text. How does reading for information change the way you read? Let's begin by reading the information together.

TEACHER DO: Choose a student to read the first paragraph. As the passage is being read, begin to draw a diagram on the board that will explain the sentence, "They input, output, process, and store data and information." Label the diagram with INPUT, OUTPUT, PROCESS, and STORE DATA. Use the diagram and label it as students use the text and illustrations to build an understanding of the computer system.

4. TEACHER SAY: As we read each of the descriptions, let's make connections to the jobs on this diagram.



TEACHER DO: Read each description orally, one at a time. Ask students to use the reading and the illustrations to help you explain and complete the diagram. Draw arrows between parts that work directly together.



STUDENTS DO: Make connections between diagram, reading, and illustrations.

TEACHER DO: Guide students as needed to copy the diagram onto the bottom of the student page. You may choose to redraw the diagram step-by-step.

TEACHER SAY: This diagram can help us see a process, but it is still a little hard to imagine. Let's act out this process so that we can better understand it.

5. TEACHER DO: Divide the class into groups of six students. Have students stand in groups and within the group, count off from 1 to 6. Assign the following roles by number, writing them on the board for reference. Distribute two index cards to the input device students and one to the output device students. Before beginning the simulation, have the input device students write “start calculator” on one index card and a simple multiplication problem on the other. Have the output device students draw a simple calculator on their index card. The CPU student needs a pencil. Repeat the simulation a couple times so that students can become familiar with the process.

- 1 = Motherboard
- 2 = Input device
- 3 = Central processing unit
- 4 = Memory
- 5 = Storage
- 6 = Output device

TEACHER SAY: Follow my directions to see how the parts of a computer work together.

- *Input device*, hand the command “start calculator” to the *CPU*.
- *CPU*, hand the command to the *motherboard*, who hands it to *storage*.
- *Storage*, hand the command to the *motherboard*, who hands it to the *output device*.
- *Output device*, show your calculator drawing.

Okay, we have started our calculator program. Now let’s solve a problem.

- *Input device*, now hand your multiplication problem to the *CPU*.
- *CPU*, solve the problem and then hand the answer to the *motherboard* who hands it to the *memory*.
- *Memory*, hand the answer back to the *motherboard*, then to the *output device*.
- *Output device*, show the answer.

TEACHER DO: Ask students to reflect on how the simulation helped make the diagram clearer. If students have questions that you cannot answer, this is okay. Encourage your students to research answers or ask computer programmers that they may know for help.

TEACHER SAY: It is amazing to learn more about how computers work. All of this and more is happening in less than a second when we tap buttons on a keyboard. We have used computers in class for our learning. Can you use the information in the text to explain how the computer was able to complete tasks for us? For example, which parts of the computer were used when we made presentation slides?



STUDENTS DO: Analyze and justify responses.

TEACHER DO: Extend with other examples, such as researching information or typing a paper. Students are only expected to have general knowledge at this point, connecting experiences to the reading.

TEACHER SAY: We talk about computers like we use in class, but there are other forms of technology that use computers. Did you know our cars have computers that help them work? Can you think of any other examples of how computers are used?



STUDENTS DO: Share experiences.

6. TEACHER SAY: Cell phones connect people. How is the cell phone like a computer? Let’s use some **Think Time**, then discuss with your **Shoulder Partner**.



STUDENTS DO: Consider connection between the cell phone and the computer.

TEACHER DO: Lead a discussion about computer technology and how it has evolved to impact all areas of our lives. Draw a web on the board connecting the computer to our daily lives. For example, computers help our trains run, organize train schedules, turn on street or track lights automatically, and so on. Expand the web with students’ ideas, covering much of the board to demonstrate just how much the world is connected through the computer.



STUDENTS DO: Give examples of how computers help in daily lives.

TEACHER SAY: The computer has really changed the way we live. We use computers in the classroom to learn and connect to the world around us. How does the computer help us connect to the world?



STUDENTS DO: Give examples of learning about the world through computer use.

TEACHER SAY: When people think about the future, they often invent things using their imagination that might solve problems in the future. Many of these solutions involve some form of technology. Decades ago, people thought robots to help do chores were a fantasy. Do we have anything like that now?



STUDENTS DO: Respond with ideas, such as automatic vacuums or refrigerators that can store a grocery list. (This is an opportunity to practice the Life Skill: Critical Thinking.)

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: I love thinking about the future. Remember that our Share Project is going to be to create a design for the future that will help us stay connected. Let's take a few minutes to collect some ideas of problems or needs that we can improve upon. So far, we focused on transportation and communication technology. Write your ideas on sticky notes and when you finish, add your ideas to one of the three pieces of chart paper. One is for transportation, one is for communication, and one is for other ideas.

TEACHER DO: Hang chart paper in three places around the room. Direct students to write on sticky notes or directly on the charts around the room. These charts will help students brainstorm ideas for the Share Project.

Lesson 7

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Identify problem and possible solution in a story.Debate issues, listening and responding respectfully to others.Use evidence to support an argument.	<ul style="list-style-type: none">AdvantageDebateDisadvantage	<ul style="list-style-type: none">Student booksPencilsCrayons or colored pencilsThree charts from previous lesson
LIFE SKILLS		
<p>Learn to Live Together Respect for Diversity: <ul style="list-style-type: none">Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.</p>		



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our last lesson, we learned about the computer and how it works. Do you remember the main parts of the computer and what each does?

STUDENTS DO: Share what was learned about computer components.

2. TEACHER SAY: Today we will begin with a story about Rashad and Yasmeen. They seem to be having trouble getting along today. Turn to the next student page, My Turn. Can you predict what the story is about from the title?

STUDENTS DO: Make prediction.

TEACHER SAY: Let's see if you are correct. The directions say:

READ ALOUD: Read the story to yourself. Then read the story again with your partner. Use expression as you read.

TEACHER SAY: This is a chance to practice using expression in our reading. Once you finish the story, think about how the story might end.

STUDENTS DO: Read the story twice.

TEACHER DO: Monitor students' reading. Assist with small group reading as necessary. When students have finished reading, bring the class back for discussion of the story. Ask questions such as:

- What is the problem in the story?
- How do you know that Mother is unhappy?
- What is upsetting Mother?
- Why is the family going to be late?
- Why is Rashad annoyed with Yasmeen?
- Why is Yasmeen annoyed with Rashad?

- Has the problem been solved? If so, what is the solution?
- Have you ever had a problem like this? Please explain.
- Who is responsible for the problem? Who should fix it and how?

 **STUDENTS DO:** Discuss reading, including relating the story to their own lives.

3. TEACHER SAY: When we communicate, we are connecting with each other. The way we choose to communicate with others can be positive and it can be negative. It seems Rashad and Yasmeen are having difficulty communicating with each other and with their mother. Let's think about how we communicate with others. How do you communicate with others without using technology?

 **STUDENTS DO:** Discuss ideas, such as spending time with each other, seeing and talking with others.

TEACHER SAY: What are some ways you communicate using technology?

 **STUDENTS DO:** Share ideas, such as cell phone, video calls, email, texting, instant messages, and so on.

TEACHER SAY: What ways do you think help you stay connected the best? Be sure to explain your thinking.

 **STUDENTS DO:** Continue conversation about staying connected with other people.

TEACHER SAY: Some people think we can be too connected with technology, and this prevents us from connecting with people. How do you think you could be too connected with technology?

 **STUDENTS DO:** Respond with ideas, such as spend a lot of time looking at our computers and phones and less time talking with others face-to-face.

TEACHER DO: If students do not come up with the idea of less face-to-face time, suggest the idea.

TEACHER SAY: If you did not have a computer, cell phone, or games to play, how might you spend your time?

 **STUDENTS DO:** Share ideas, such as spending time with friends or family.

TEACHER SAY: So now let's think about our statement again: Some people say technology prevents us from staying connected with others. How would you respond? Talk with your **Shoulder Partner**.

 **STUDENTS DO:** Share with **Shoulder Partner** and then share with the whole group.

4. TEACHER SAY: If we think back to the story of Rashad and Yasmeen, maybe it is more than being late that is upsetting Mother. Let's turn to the next page in our student book, Staying Connected. Maybe it will help us think about the problem. Read the directions and then we will begin the page together.

 **STUDENTS DO:** Read the directions.

TEACHER SAY: Let's look at the example given. We will see if we agree with these responses. Maybe we can add to them.

TEACHER DO: Have students read and respond to each section of the table. Make certain they understand that there are advantages and disadvantages to technology and to other ways of communicating. Students should think about guidelines to control use of each of the forms of technology and why guidelines are important. Once students understand the format, direct them to work together with their **Shoulder Partner**, discussing all the answers. More than one response may be added to each.

 **STUDENTS DO:** Discuss types of technology and how to control its use.

TEACHER DO: Once students have had time to complete the page, discuss some of the examples students have written. If some students are not quite finished, they can add to the table from the student discussion.

5. TEACHER SAY: We have had a good discussion today. You have thought about how we can best use technology and still spend time with family and friends. Let's take what you know and apply it to a problem. The problem is that some parents would like to restrict the amount of time their children spend on video games. We will debate this issue. What does it mean to DEBATE an issue?

 **STUDENTS DO:** Share understanding of debate, which includes arguing respectfully with evidence, listening, and responding to comments.

TEACHER SAY: We will divide the class into two sides. One side will argue in favor of restricting use of video games and one side will argue against restricting use of video games. I may ask you to debate a perspective that does not match your personal opinion. You will need to argue for the side you are assigned. A person who is good at debating is able to think about both sides of the issue. Remember that when we talk about two sides of an issue, we need to be especially respectful of others' ideas. We need to listen to others' reasoning and respond to that idea. Are there any questions about what it means to debate an issue?

 **STUDENTS DO:** Ask questions.

TEACHER DO: Divide the class into debate groups and assign each side a perspective. Allow time for sides to discuss their arguments and evidence, as well as ideas to help agree to a solution. Once students have had time to prepare, bring the class together to debate. If the class is too large to allow everyone to speak, divide students into groups of about 10, with five on each side to debate the issue. Remind students of respectful listening and presenting new ideas.



Respect for Diversity

 **STUDENTS DO:** Participate in debate. (This is an opportunity to practice the Life Skill: Respect for Diversity.)

TEACHER DO: Monitor the debate and encourage student interaction. Once all students have had a chance to present sides, bring the class together for a final discussion.

TEACHER SAY: Thank you for your thoughtful responses in the debate. I wonder if you have a solution to Rashad and Yasmeen's problem in the story. Talk with your **Shoulder Partner**. How would you end this story?

 **STUDENTS DO:** Share endings to the story.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: How did it feel to debate an issue today? Did you enjoy presenting your argument? If you were assigned a side different from your personal opinion, was it hard to come up with an argument?

 **STUDENTS DO:** Reflect on and share experiences.

TEACHER SAY: In our next lesson, we will begin working on our Share Project. We already started lists of problems we encounter when we want to connect with others. Let's use a minute of **Think Time** to see if you would like to add other challenges to our lists.

TEACHER DO: Allow students to check the problem lists and update with ideas. Choose students to share thoughts and explain why they think each challenge is important.

 **STUDENTS DO:** Share ideas and explain their reasoning.

TEACHER SAY: Let's all go home and ask our families what problem they have connecting with others. We will start our next lesson by adding any ideas from our families. I wonder if your family's ideas will be different from the ones we already have.

Lesson 8

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Create a plan to work collaboratively.• Design a solution to a problem.• Acknowledge peers' contributions to group work.	<ul style="list-style-type: none">• Design• Problem• Solution	<ul style="list-style-type: none">• Student books• Pencils• Crayons or markers• Half a sheet of paper for each student• Chart paper for each group
<p>LIFE SKILLS</p> <p>Learn to Live Together</p> <p>Respect for Diversity:</p> <ul style="list-style-type: none">• Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.		

Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: At the end of our last lesson, we discussed asking our families if there is a problem that we can solve that would help us stay connected. Did you get any ideas from your family?



STUDENTS DO: Respond with new ideas.

TEACHER DO: As ideas are shared, ask students to add the new ideas to the appropriate chart.

2. TEACHER SAY: These are new ideas that we may be able to use today. Thank you for sharing with our class. Let's begin by reviewing what we have learned so far about technology. What are some ways that technology helps us stay connected?

TEACHER DO: Call on students to volunteer what they remember. Students may choose to review the pages in the student book. Students should consider both transportation and ways we communicate.



STUDENTS DO: Share ways technology helps us stay connected.

3. TEACHER SAY: Thank you for helping all of us recall our learning. It will help us as we begin our Share Project. There are two parts to our Share Project. First, we will identify a problem to solve to help us stay connected in the future. For this part, we will think ahead all the way to the year 2040. How old will you be in 2040?



STUDENTS DO: Calculate ages.

TEACHER DO: Ask students to share how they solved the problem. A follow-up question may be: How many years from now is the year 2040?

TEACHER SAY: Your Share Project will be to collaborate in groups to design a solution to the problem you identify. Once you have worked as a team to create the design, you will write a story about how Rashad and Yasmeen stay connected using your new technology. Before we start, let's look at our My Self-Assessment to learn about the expectations for the project.

TEACHER DO: Lead students through the self-assessment, reviewing what is expected as students work and collaborate.

4. TEACHER SAY: Now let's turn to the page in your books The Year 2040. This will help us think about what life might be like for Rashad and Yasmeen in the year 2040.



READ ALOUD: Use your imagination. Think about how technology might change in the future. Draw a picture of how you stay connected with your family in the year 2040. Be sure to add details.

TEACHER DO: Ask students to close their eyes and imagine how the world may look in the year 2040. Ask questions to guide thinking, but tell students they should not respond aloud.

- What type of technology do you see in the future?
- How are people using technology to communicate with each other?
- How are people using technology for transportation?
- How have you and your family changed?

Allow about two minutes of **Think Time** before students begin work on the drawing.



STUDENTS DO: Draw an imaginative future.

TEACHER DO: Allow about 10 minutes for students to complete the drawings. At the end of the time allotted, invite students to share drawings with two or three other students by using **Hands Up Pair Up**.

5. TEACHER SAY: This was a good way for us to begin thinking about our futuristic Share Project. Let's decide on a problem or need that you will solve. Take a minute to look at the problems on the charts. I will hand out paper to each of you. Write on the paper the problem you want to solve. It can be one from our charts we made in class or another idea you have. Write it large enough so that others can see it when you hold the paper in the air.

TEACHER DO: Hand out half a sheet of paper to each student.



STUDENTS DO: Identify problem and write on paper.

TEACHER DO: Once students have written ideas on the paper, ask them to stand, hold the paper at eye level, and walk around the room until they find someone with the same problem or one very similar. Suggest that there be two to four students per group. Assist students who cannot easily find a matching idea.



STUDENTS DO: Walk around finding students with similar ideas.

6. TEACHER SAY: Well done. You will work in these groups as you create your design. Be sure you have your student book, pencils, and crayons for your design. Let's open to the next page in your student book, Ideas for the Future. Read and then follow the direction given.

TEACHER DO: Monitor the classroom. Make certain students are writing only the problem in the middle circle of the page.



STUDENTS DO: Record the problem and wait for further instructions.

TEACHER DO: Draw an example of the brainstorming graphic organizer on the board. Choose one listed problem to write in the center circle. Tell students they will be adding solutions in a few minutes.

TEACHER SAY: I have drawn a Web like the one you will be using. I need one possible solution to the problem I have listed. Who would like to share an idea with the class?



STUDENTS DO: Volunteer to respond.

TEACHER DO: Record the student idea as a demonstration of how to complete the **Web**. Tell students if they have more ideas, they can add more branches.

TEACHER SAY: Now it is your turn. Work individually to **Brainstorm** ways to solve the problem. You will share your ideas with your group after each of you has had time to **Brainstorm** on your own. Add your ideas to the graphic organizer. Write as many ways as you can in the time allowed.

TEACHER DO: Provide **Think Time** for students before allowing them to begin writing. Help students who may have difficulty beginning by asking probing questions about the problem.



STUDENTS DO: Record as many ideas as possible in the time allowed.

TEACHER SAY: Next, share your solutions to your problem with your team. Before you begin to share, please circle your best idea on the page. This is the idea you will share with your team.



STUDENTS DO: Choose and circle ideas to share.

TEACHER SAY: Take turns sharing what you have circled. Listen to each other's ideas. Are they similar to your own? Be sure to explain reasons for your decisions and why the idea might work the best.

TEACHER DO: As students share in groups, prompt students to explain thinking.



Respect for Diversity



STUDENTS DO: Share ideas in groups. (This is an opportunity to practice the Life Skill: Respect for Diversity.)

7. TEACHER SAY: I appreciate how well you listened to each other. Now it is time to choose one idea that your group will use. You may choose to combine ideas or use one as it is.



STUDENTS DO: Work collaboratively to reach a conclusion.

TEACHER SAY: We will not be using the complete design process for this project, because we will not be building a model. Instead we will create detailed drawings of our solutions. Let's turn to the next page, Our Plan, to help organize our thinking. Read the whole page to yourself.



STUDENTS DO: Turn to the correct page and read it.

TEACHER SAY: Before you begin your design, let's take time to answer the questions. Talk with your group so you all agree on the description of your solution and how it will help people stay connected in the future. Remember that you are thinking into the future, to the year 2040. Make your responses as complete as possible.



STUDENTS DO: Collaborate and record ideas.

TEACHER DO: Monitor student discussion, making certain all students are involved in the decision-making. As students complete the questions, prompt them to begin thinking about what the design will look like.

8. TEACHER SAY: It is good to see you working well together and listening to each other's ideas. Now it is time for the next step. You need to think through the design together. Close your student book for now. I will hand out paper for each group. Talk, share ideas, and design a solution together. Once everyone agrees, sketch your plan. Use labels to identify working parts and any other notes that will help others see and understand your solution. Do you have any questions?



STUDENTS DO: Ask clarifying questions.

TEACHER DO: Hand out a large sheet of paper to each group. Answer questions and remind students that each group member should participate in the design process.



STUDENTS DO: Collaborate to draw the plan to solve the problem for connecting people.

Note to Teacher: The remainder of the lesson period should be spent on the group design. Students should not complete the drawing in the student book until the next lesson period. Store the chart paper for student use in the next lesson.

9. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Today we began designing our solution to a problem that Rashad and Yasmeen may have in the year 2040. In our next lesson, we will share our plan with another group to see if they have any suggestions for improvement. Then we will make a final design before writing a story about Rashad and Yasmeen in the future. Let's take time before we leave today to thank our partners for sharing ideas.



STUDENTS DO: Thank each other.

Lesson 9

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Communicate ideas within a group to improve a design.• Be creative in determining the setting for a futuristic story.• Convey a message using art as the medium.	<ul style="list-style-type: none">• Collaboration• Feedback <p>LIFE SKILLS</p> <p>Learn to Be</p> <p>Accountability:</p> <ul style="list-style-type: none">• Provide effective feedback.	<ul style="list-style-type: none">• Student books• Student work from previous lesson• Pencils



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER DO: Hand out chart paper designs from the previous lesson. Make certain students have all supplies needed. Determine how you will partner groups to give feedback on designs.

TEACHER SAY: Let's start our lesson a little differently today. We will **Popcorn** a thank you to someone in the room for helping us during this chapter. Be sure to name your friend and say how he or she helped you learn. We will use **Think Time** and I will pull a **Calling Stick** to choose one student to begin.

TEACHER DO: Choose a student and allow at least five students to share thanks with classmates.



STUDENTS DO: Express thanks for collaborative learning.

2. TEACHER SAY: What a nice way to start our lesson today. In our last lesson, each team drew a design. Today, you will share your design with another team to get feedback. Let's look at the next page in the student book, Getting Feedback. Read the directions and look over the page. Be ready to ask any questions about this process.



STUDENTS DO: Read directions and ask clarifying questions.

TEACHER DO: Identify groups that will give each other feedback.

TEACHER SAY: Each group will present the drawing and explain their ideas to the other group. Groups will describe what they like about the design, then suggest improvements. The improvements can be for the idea itself or for how to make the drawing clearer. Write the ideas that pertain to your design in your student book. You will use these notes to redesign your solution.



STUDENTS DO: Record feedback notes. (This is an opportunity to practice the Life Skill: Accountability.)

3. TEACHER SAY: Now, discuss with your group how you can use the ideas you recorded to create an improved solution. Write the changes you will make in your student book. Then adjust your group drawing as needed. If you need another piece of chart paper, let me know.



STUDENTS DO: Agree on a redesign using information learned from peer feedback.

4. TEACHER SAY: Now that you have completed your redesign, take time to draw the redesign in your student book. Turn to the next page, Our Redesign. Follow the directions and be complete in your drawing. Your drawing should be the same as your group's drawing.



STUDENTS DO: Work independently to complete student page.

TEACHER DO: When most students have completed the student page, bring the class back together to explain the next steps in the Share Project.

TEACHER SAY: We still have one more part of our Share Project to complete. Who can remind us what it is?



STUDENTS DO: Share that they are to write a story.

5. TEACHER SAY: Yes, our next step is to write about how Rashad and Yasmeen will use your design in the year 2040. We do not have time to finish the story today, but we can begin thinking about it. Talk with your group. You will each write your own story, but maybe you can help each other with ideas. Use the drawing you made in the last lesson to help you think about what you might want to write about. Think:

- Where will the story take place?
- How have Rashad and Yasmeen changed?
- How are they using your design?
- How is your design helping them stay connected?



STUDENTS DO: Share ideas.

TEACHER DO: Allow three to five minutes for students to share ideas. This is a time for students to get excited about the story they will write.

6. TEACHER SAY: It sounds as though we will have some interesting stories to read and share with others. I thought we might begin our stories by drawing a picture first. Maybe it will help us visualize what will happen in our stories. Please turn to the next page in your student book, In the Year 2040. Read the directions to yourselves.

TEACHER DO: Instruct students to only use a pencil since they may want to add more details after the story is written. Remind students to work independently. While students are working, collect group final design papers to post around the room.



STUDENTS DO: Complete illustrations.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: Thank you for working with your groups today. We will finish our stories in our next lesson and share with others. We began today by thanking our friends. Let's end it this way too. We will Popcorn our thanks to others in our group who helped us. We will start by choosing one of you using Calling Sticks.



STUDENTS DO: Thank friends.

Lesson 10

Overview

LEARNING OUTCOMES	MATERIALS	LIFE SKILLS
<p>Students will:</p> <ul style="list-style-type: none">Acknowledge the importance of creativity in writing.Use the writing process to create a futuristic story that relates to the design solution.Self-assess learning and management of goals.	<ul style="list-style-type: none">Student booksWhite paper for final copy of writingPencilsCrayons or colored pencils	<p>Learn to Be</p> <p>Self-Management:</p> <ul style="list-style-type: none">Review progress in realizing goals.
PREPARATION		
<p>If extra days are available, consider extending this lesson beyond one day so that students can work more thoroughly through the writing process. Students could plan and draft in one lesson; get feedback, revise, and publish in a second lesson; and then share and self-assess in a third lesson. If computers are available, support students in composing, revising, and publishing stories digitally.</p>		



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: Over the past few days, we have been thinking about the future and enjoying using our imaginations. Let's take just a few minutes to share some ways we think staying connected with others will change in the future. I will pull a **Calling Stick** and we will **Popcorn** this discussion as we did in our last lesson.

 **STUDENTS DO:** Share imaginings with the class.

2. TEACHER SAY: Thank you for sharing your ideas. 2040 will be an interesting year if your imaginations come true. Today we will finish our Share Project and then present our ideas. I think it will be fun to hear all our stories about Rashad and Yasmeen. The last thing we did was to illustrate a picture for our story. This must have felt different to everyone—to illustrate and then write. Why do you think I asked you to illustrate first?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Yes. Since it was important for you to be creative, I hope that illustrating helped you think about the details. After you write your story, you may choose to add a few more details to help tell the story through the illustrations. Then you will complete the illustration with color.

 **STUDENTS DO:** Ask clarifying questions.

3. TEACHER SAY: We will begin today by writing your short story. Let's turn to the next page in the student book, *My Rough Draft*. Read the directions as everyone finds the correct page.

 **STUDENTS DO:** Read directions.

TEACHER SAY: What did you notice about the directions?



STUDENTS DO: Share that it is the writing process.

TEACHER SAY: Yes, it is given to you in the steps of the writing process. First you will PLAN your writing. Think about the order of events in your story. This will be a short story about how Rashad and Yasmeen will use your device in the future. You will need a beginning, middle, and end. Let's take time now to review your illustration and write the PLAN for your story. Remember, you do not need to write in sentences at this point. Just get your ideas on the paper. List the ideas so you know what will happen first, second, and third in your short story.

TEACHER DO: Allow time for students to work on the planning stage of the writing. Guide students with probing questions as needed. As students complete the PLAN, direct them to continue to the DRAFT phase of the writing. There are added lines on the next page.



STUDENTS DO: Begin writing process.

TEACHER DO: Give students about 10 to 15 minutes to draft the story. Adjust this time to meet the needs of your students and provide additional support as necessary. As students finish, ask them to proofread their own writing and to check their illustrations for completeness.

4. TEACHER SAY: Now that your stories are written, you will work with your **Shoulder Partner** to help REVISE each other's work. Help each other with spelling, punctuation, sentence structure, and the ideas. Do not write on your partner's paper. Listen to your partner's ideas and write changes to be made on your own paper. Remember that the final product is the writer's work. You may use your partner's ideas or choose not to do so. Once you have finished, raise your hand and I will give you the paper for your FINAL copy.



Empathy



STUDENTS DO: Continue writing process and color illustration. (This is an opportunity to practice the Life Skill: Empathy.)

TEACHER DO: Monitor progress and guide students as needed. Write words on the board as needed for students to copy. Remind students of the amount of time left to complete the story.

5. TEACHER SAY: I have been reading some of your stories and have seen your illustrations. Now it is your time to share your story and your design. Two partner groups will work together just as we did before, but I will be putting you into new paired groups.

TEACHER DO: Pair groups for sharing. Allow time for students to share, either by reading their own story or by having students read each other's work. Once everyone has shared, bring students back together for the self-assessment.



STUDENTS DO: Share final projects.



Self-Management

6. TEACHER SAY: I see a lot of smiles. That tells me you are proud of your work. Now it is time to turn to My Self-Assessment.

TEACHER DO: Guide students as needed through the self-assessment process. This is an opportunity for students to practice the Life Skill: Self-Management.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Encourage students to lead this routine when possible.

TEACHER SAY: I hope you are all proud of your accomplishments in class over the past few days. Please turn to your **Shoulder Partner**. Tell your partner what you are most proud of in your Share Project.



STUDENTS DO: Share pride in their work.

TEACHER SAY: You have made many new connections in this chapter. I look forward to seeing how we are able to express our learning in our final chapter about connections.

Rubric Assessment (for teacher use)

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Imagines a technological solution that connects people in the future and explains the solution with extensive help from the teacher or peers. <i>Information and Communication Technologies A.1.c.</i>	Imagines a technological solution that connects people in the future. Explains how the solution will be useful. <i>Information and Communication Technologies A.1.c.</i>	Imagines a creative technological solution that connects people in the future. Explains how the solution will improve how we live in great detail. <i>Information and Communication Technologies A.1.c.</i>
	Has difficulty connecting current technologies to the problems they solve and/or describing possible solutions to a future problem. <i>Science F.1.b.</i>	Connects current technologies to the problems they solve and explains future needs or problems with support when describing possible solutions. <i>Science F.1.b.</i>	Connects current technologies to the problems they solve using sound logic, and explains future needs or problems when describing creative solutions. <i>Science F.1.b.</i>
	Writes a narrative that includes a beginning, middle, and end with help from peers or the teacher. <i>Writing B.1.a.</i>	Writes a narrative that includes a clear beginning, middle, and end. <i>Writing B.1.a.</i>	Writes a detailed narrative that includes a thoughtful and cohesive beginning, middle, and end. <i>Writing B.1.a.</i>
	Makes improvements to writing after discussion with a peer only with help from the teacher. <i>Writing D.1.b., c.</i>	Makes improvements to writing after personal review and discussion with a peer. <i>Writing D.1.b., c.</i>	Makes thoughtful improvements to writing after personal review and discussion with a peer. Serves as a role model for peers in this area. <i>Writing D.1.b., c.</i>
Quality of Performance	Creates a drawing that does not clearly communicate the solution to a future connection challenge. <i>Visual Art A.2.c.</i>	Creates a detailed drawing that effectively communicates the solution to a future connection challenge. <i>Visual Art A.2.c.</i>	Creates and labels an especially detailed and thoughtful drawing that effectively communicates the solution to a future connection challenge. <i>Visual Art A.2.c.</i>
	Uses creativity to imagine life in the future with support from peers or the teacher.	Uses creativity to imagine life in the future.	Uses exceptional creativity to imagine life in the future and supports peers to do the same.
Life Skills	Collaborates with teammates but has difficulty showing respect for the ideas of teammates while coming to agreement. <i>Respect for Diversity</i>	Collaborates effectively by showing respect for the ideas of teammates while coming to agreement. <i>Respect for Diversity</i>	Collaborates effectively by showing respect for the ideas of teammates while coming to agreement. Takes on a leadership role and helps organize the team in this work. <i>Respect for Diversity</i>
	Has difficulty reflecting on positive feedback and suggestions when revising a design and/or piece of writing. <i>Accountability</i>	Reflects on positive feedback and suggestions when making improvements to a design and/or piece of writing. <i>Accountability</i>	Builds on positive feedback and suggestions when making thoughtful improvements to a design and/or piece of writing. <i>Accountability</i>

PRIMARY 3

Multidisciplinary

COMMUNICATION

CONNECTIONS

**Chapter 3: Connecting with
Community**

Chapter Overview

Connecting with Community

COMPONENT	DESCRIPTION	LESSONS
 Discover	Students explore articles in newspapers prior to creating class newspapers. Students design invitations to the Share Project.	1
 Learn	Students collaborate to write a class newspaper. Students write articles, produce a public service message and design a cartoon to explore the community around them in different ways.	6
 Share	Students work collaboratively to produce a mural that represents various topics and their connections to the community.	3

Connection to Issues



Non-Discrimination: We are all alike, and yet we have differences. We can appreciate and talk about how we are the same and different. We can work together and be cooperative and collaborative.

Citizenship: We belong. We are part of a human family. We all have needs and we all have responsibilities.

Environment and Development: Our earth and environment need to be sustained. We can appreciate and care for the environment as a community.



Life Skills Addressed

DIMENSION	DESCRIPTION
Learn to Know	<p>Critical Thinking:</p> <ul style="list-style-type: none"> Identify subject/topic-related information. Explain thinking processes.
Learn to Work	<p>Collaboration:</p> <ul style="list-style-type: none"> Respect for other opinions.
Learn to Live Together	<p>Respect for Diversity:</p> <ul style="list-style-type: none"> Solicit and respect multiple and diverse perspectives to broaden and deepen understanding. <p>Sharing:</p> <ul style="list-style-type: none"> Effective management and organization of tasks.
Learn to Be	<p>Self-Management:</p> <ul style="list-style-type: none"> Review progress in realizing goals. <p>Accountability:</p> <ul style="list-style-type: none"> Provide effective feedback. <p>Communication:</p> <ul style="list-style-type: none"> Reading, writing, non-verbal communication skills.

Learning Indicators

Throughout this chapter, students will work toward the following learning indicators:

READING:

D. Reading Skills: Fluency

- 1.a. Read texts at grade-appropriate difficulty with a level of accuracy and fluency to support understanding.

E. Reading Comprehension: Literature

- 1.a. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- 2.a. Determine the central message or lesson of a text and explain how it is conveyed through key details.
- 4.a. Answer questions about the logical connection between particular sentences and paragraphs in a text (such as comparison, cause/effect, or sequence).

G. Language: Vocabulary Acquisition and Use

- 1.a. Infer the meaning of unknown and multiple-meaning words using a variety of strategies (such as context and synonyms).
- 1.g. Demonstrate command of the conventions of grammar and usage when writing or speaking.

WRITING:

A. Foundational Skills

- 1.a. Write complete sentences using punctuation, prepositions, and coordinating conjunctions (such as ف, و, ت) as appropriate.

C. Informational and Opinion

- 1.a. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

D. Process, Production, and Research

- 1.a. Use graphic organizers to plan writing.
- 1.b. Utilize questions and suggestions from peers to strengthen writing.
- 1.c. Review and revise personal writing to strengthen it.

SPEAKING AND LISTENING:

A. Foundational Skills

- 1.a. Engage effectively in a range of collaborative discussions with peers and adults in small and larger groups.
- 1.f. Build on others' ideas in discussion and express own ideas clearly.

MATH:

D. Measurement and Data

- 1.a. Select appropriate tools and measure objects in millimeters, centimeters, or meters.
- 5.e. Relate area to the operations of multiplication and repeated addition.
- 2) Find the area of a rectangle with whole-number side lengths using concrete models.
- 3) Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real-world and mathematical problems.

SOCIAL STUDIES:

A. Citizenship

- 1.e. Describe the actions of people who have made a positive difference in their community (such as community and civic leaders).
- 1.f. Identify opportunities for student participation in local or regional issues.

VISUAL ART:

A. Producing Visual Art

- 2.c. Add details to a work of art to enhance what is communicated.

B. Presenting Visual Art

- 1.a. Collaborate with peers to create an art exhibition.

ECONOMICS AND APPLIED SCIENCES:

A. Family Relationships and Safety in the Community

- 1.a. Explain how roles within the family can change.
- 1.b. Demonstrate how to seek the help of trusted adults in making decisions and solving problems.
- 2.a. Express personal feelings and identify others' expression of feelings.

B. Childhood Development

- 2.a. Explain rights within the family and society (such as the right to health care and education).

D. Managing Individual and Family Resources and Rationing Consumption

- 2.a. Define their individual role in maintaining a clean and healthy household.

VOCATIONAL FIELDS:

A. Career Social Skills and Preparation

- 1.a. Identify and demonstrate good interpersonal skills at school and home (including in different vocational activities).
- 1.b. Work cooperatively with a group of students to accomplish a task (including tasks related to vocations).
- 1.c. Explain and demonstrate the group interaction terms *compliment* and *encourage*.
- 1.d. Explain how the roles of individuals at home and school change over time.
- 2.a. Explain how current work habits (such as focusing on a task, time management, and collaboration) at home and school can transfer to the workplace.
- 3.a. Identify local examples of entrepreneurship.
- 4.a. Identify examples of various occupations in personal networks (such as family members or familiar adults) especially in hotel and tourism jobs (such as guides and chefs).
- 4.c. Collect information on how local occupations contribute to the community and protect and conserve the environment.

INFORMATION AND COMMUNICATION TECHNOLOGIES:

C. Technological Production Tools

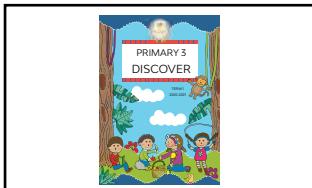
- 1.a. Demonstrate basic knowledge of common computer applications (such as how to create, edit, print, save, use a menu, copy and paste).
- 1.c. Identify the appropriate program or application to complete a task.
- 2.a. Use a variety of tools to create digital products that use text and various forms of graphics, audio, and video to communicate ideas and information to peers.

Pacing Guide

LESSON	INSTRUCTIONAL FOCUS
1	DISCOVER: Students will: <ul style="list-style-type: none">Predict how a newspaper helps people connect within a community.Identify and explain the function of various newspaper elements.Produce an invitation to attend the Share Project.
2	LEARN: Students will: <ul style="list-style-type: none">Analyze parts of a story.Identify elements of a news article.Script questions for interviewing a classmate.
3	LEARN: Students will: <ul style="list-style-type: none">Examine the structure of a news story.Write a news article about a member of the community or a classmate.Identify the characteristics of an interesting news event.
4	LEARN: Students will: <ul style="list-style-type: none">Write an article about an important news event at the school or in the community.Collaborate to improve writing.Utilize strong opening and closing sentences in writing.
5	LEARN: Students will: <ul style="list-style-type: none">Identify the characteristics of a strong public service message.Produce a public service message for the class newspaper.Use text and graphics in a digital public service message.
6	LEARN: Students will: <ul style="list-style-type: none">Understand the characteristics of a cartoon.Produce a four-panel cartoon to share information about a topic.
7	LEARN: Students will: <ul style="list-style-type: none">Collaborate with a group to produce a newspaper.Contribute a piece of writing that shares information with the community.
8	SHARE: Students will: <ul style="list-style-type: none">Analyze the characteristics of a mural.Calculate the area of a mural using individual panels.Produce a draft of a panel for a class mural.
9	SHARE: Students will: <ul style="list-style-type: none">Give effective feedback.Collaboratively produce a class mural.
10	SHARE: Students will: <ul style="list-style-type: none">Present mural panels to the community or class.

Materials Used

Student book



Pencils



Lesson 1

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Predict how a newspaper helps people connect within a community.Identify and explain the function of various newspaper elements.Produce an invitation to attend the Share Project.	<ul style="list-style-type: none">BylineHeadlineReporter	<ul style="list-style-type: none">Student booksPencilsCrayons or colored pencilsScissorsNewspapers for each group
PREPARATION		LIFE SKILLS
<ul style="list-style-type: none">Bring in a variety of newspapers for students to explore throughout the week. If unavailable, share or print digital news articles.Plan to invite families to the final day of the Share Project. This would be a good time to allow students to use a digital program to design an invitation.Consider inviting three to five community members into the classroom for students to interview during Lesson 3 if it would be difficult for students to interview a community member on their own time outside of class.		<p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">Identify subject/topic-related information.



Discover (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson. Ask students to think, reflect, share, and listen. Encourage students to lead this routine as they become more comfortable.

This is a time to excite your students about the chapter.

TEACHER SAY: Today we begin our last chapter for the year. It is called "Connecting with Community." What would you still like to learn about the people within our community?



STUDENTS DO: Respond with ideas.

TEACHER DO: List ideas on the board or on a special chart dedicated to student ideas for this chapter.

2. TEACHER SAY: These are all good ideas. We will try to learn as much about your ideas as we can. Can you think of ways your family learns about what is happening in our community?



STUDENTS DO: Respond with ideas, such as from friends and the media.

TEACHER SAY: Radio and television are two forms of media that we often think about. Media is how we communicate with others on a large scale. It can include radio, television, newspapers, magazines, and the internet. Let's learn more about how a newspaper is used to communicate within a community. Over the next few lessons, we will use what we learn to communicate with our own community by producing a class newspaper. Let's see what we can discover about newspapers today.

TEACHER DO: Hand out newspapers to groups of students, either one newspaper that has been divided into sections or multiple sets of newspapers.

TEACHER SAY: How many of you have seen a newspaper at your house or in the neighborhood?



STUDENTS DO: Raise hands to respond.

TEACHER DO: Continue a brief discussion about how the newspaper is used by parents or other family members.

TEACHER SAY: The newspaper helps us stay connected to our community. It helps us know what is happening around us. Let's take time to explore the newspaper.



STUDENTS DO: Explore newspaper.

TEACHER DO: Allow about five minutes for students to look through the pages of the newspaper.

TEACHER SAY: Now that you have had some time to review the paper, what did you notice?



STUDENTS DO: Share observations, referring to format, content, and different types of articles in the newspaper.

TEACHER DO: Record students' observations in a list on the board. If students identify a part of the newspaper but do not know the name, write the response and its correct name. As an example, "title" could be identified as the headline.

TEACHER SAY: Earlier, I said, "The newspaper helps us stay connected to our community." Who can find examples of why this is true?



STUDENTS DO: Find examples in the newspapers.

3. TEACHER SAY: You have already discovered a lot about a newspaper from observing examples. Over the next few lessons, we will produce our own class newspaper. A class newspaper will help connect us as a classroom community, and it will help connect us to our community outside the classroom. We will decide who the audience will be for our newspaper and learn how to write interesting articles. Then, for our Share Project, we will use the information from our newspapers to communicate in a different way; we will create a mural for our wall.

Note to Teacher: Let students know at this time if the newspaper will be digitally created.

4. TEACHER SAY: Let's use our community newspaper to discover what we want to include in our class newspaper. Open your student books to Scavenger Hunt. Read the directions silently, then wait for further instruction.

TEACHER DO: Review each of the listed items and clarify with definitions as needed. Encourage students to explore as many sections of the newspaper as possible. Allow five to 10 minutes to complete the scavenger hunt. Bring students back together to discuss what they found.



STUDENTS DO: Share discoveries.

TEACHER SAY: You also found some things on your own besides what was on the list. I will call on one student to share what he or she found, and the rest of us will see if we can find it in our own newspapers.

TEACHER DO: Once one student has shared and everyone has looked in their own papers, invite that student to call on another. Allow about five students to share findings they added to the bottom of the chart.



STUDENTS DO: Continue exploration with student direction. (This is an opportunity to practice the Life Skill: Critical Thinking.)

TEACHER SAY: People who write for a newspaper are called reporters. Why do you think they are called reporters?



STUDENTS DO: Explain by using the root word to define.

TEACHER SAY: Yes. Reporters use facts to inform readers about what is happening in their community or around the world. Reporters are given credit in the newspaper for the work they do. Can you find where the names of the reporters are in the newspaper?

 **STUDENTS DO:** Search for names.

TEACHER SAY: At the beginning of the article is the byline, or the name of the reporter. Not all stories have a byline, but it is something you should look for as you read the newspaper. Do you think our classroom newspapers should have bylines? Be sure to explain your thinking.

TEACHER DO: Write the word BYLINE on the board for reference.

 **STUDENTS DO:** Explain reasons for or against using bylines.

TEACHER SAY: Our newspaper will be for a small community, so our readers will be interested in knowing who wrote each article. We will plan to include bylines in our newspaper. Now I have another question. Who is the audience for the newspapers we have been exploring?

 **STUDENTS DO:** Respond with answers, such as people in the community.

TEACHER SAY: Who do you think will read our newspaper? It is important that we decide the audience for our newspaper. We will write articles about people in our community and what they do to help us. We will also write about current events at our school or in our neighborhood. Who do you think we should write our newspaper for? Will we write for our class or for our community and our families? Talk with your table group first, and then we will share some ideas. Be ready to explain your thinking.

 **STUDENTS DO:** Share ideas about the audience for the newspaper.

TEACHER DO: List ideas on the board for reference. Have students vote on the audience for the newspaper. Write the choice in a prominent place on the board. It will be used as a reminder for all writing tasks.

TEACHER SAY: Knowing the audience for our newspaper will help us decide topics for the articles we will write.

TEACHER DO: Instruct a group of students to collect all the newspapers. Tell students they will have a chance in another lesson to review newspapers again.

5. TEACHER SAY: I think our families will be helpful in planning content for our newspaper, and they would also enjoy seeing our final products. Let's make invitations asking our families to attend our final lesson in this chapter and asking for help as we begin to think about content. Turn to the next page in the student book, You Are Invited. Read the directions and the sections of the invitation.

Note to Teacher: You may choose to bring in community members to be interviewed by students rather than having students find someone on their own. If so, this part of the invitation can be excluded.

TEACHER DO: Allow time for students to review the directions. Tell students whether the page is a rough draft or final copy, then provide the information needed to fill out the invitation section of the page. After completing the invitation, discuss ways that family members could help, such as suggesting people to interview or suggesting interesting topics for articles.

TEACHER SAY: The first line after the invitation says that we need help. We will interview community members for our newspaper and write about current events. How might our families help us?

TEACHER DO: Guide students to consider asking family members to participate in an interview, recommend someone else to interview, or offer suggestions about what type of event would interest them. One option for focusing the interviews is to identify people in students' families or family networks in various occupations and how they help the community.

 **STUDENTS DO:** Share ways families can help.

TEACHER DO: **Model** by writing a sample sentence on the board that requests help. The sample request could be to find a community member to interview or to suggest topics for a current events article. Students may copy the sentence directly or write a similar sentence of their own.

TEACHER DO: Direct students to decorate the invitation and cut it out once the information is complete.

Note to Teacher: The student page may be used as a rough draft used by students to make final invitations using computer software.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Let's think about the newspapers we will write. You will each write two articles. One will be to report on something happening in our community. In the second, we will interview someone who lives in our community. Then we will use the information to write an article. We will begin our next lesson learning how to conduct an interview. Turn to your **Shoulder Partner** and share your ideas for article topics.

Lesson 2

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Analyze parts of a story.Identify elements of a news article.Script questions for interviewing a classmate.	<ul style="list-style-type: none">InterviewReporter	<ul style="list-style-type: none">Student booksPencilsCrayonsScissors
<p>PREPARATION</p> <p>Be prepared to be interviewed by the students or invite the custodian, another teacher, or principal to class for interviews.</p>	<p>LIFE SKILLS</p> <p>Learn to Be</p> <p>Communication:</p> <ul style="list-style-type: none">Reading, writing, non-verbal communication skills	



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our last lesson, you asked your family for help. How is your family going to help you be a better reporter?

STUDENTS DO: Share family responses.

2. TEACHER SAY: Sometimes we do things on our own and other times we need someone's help. Thank you for talking to your family about our newspaper. To begin our work today, please turn to the page Rashad's Class Newspaper. Rashad is also working on a class newspaper. Let's read about Rashad's class.

TEACHER DO: Determine if students will read individually, in small groups, or orally as a whole class. If students will be reading individually or in small groups, have students skim for unknown words. List words on the board, sound them out, and have students repeat.

STUDENTS DO: Read the story.

TEACHER DO: Facilitate discussion of the story, asking comprehension questions such as:

- Why were Rashad and his friends worried?
- How did Mr. Mohamed get the information for his article?
- How did Mr. Mohamed help the class understand interviews?
- What else do the students need to know?
- Why do you think Mr. Mohamed wrote the article about Mrs. Mohamed?

STUDENTS DO: Respond and ask clarifying questions.

3. TEACHER SAY: Mr. Mohamed's article is an example of an article written about an interview. Has anyone heard this word before or know what INTERVIEW means?

STUDENTS DO: Share ideas.

TEACHER SAY: An interview is a conversation in which a reporter asks questions that the subject of the interview answers. Then the reporter uses the information gathered to write a story. Think of a news story about a sports figure. Where does the reporter get the information?

STUDENTS DO: Respond, such as by asking people.

TEACHER SAY: Yes, the reporter can interview the athlete, the coach, the family of the athlete, or others who know the athlete. The reporter begins with a list of questions. The reporter listens to the answers and sometimes adds new questions. The reporter takes notes to remember the facts when it is time to write the story. Mr. Mohamed told his class that he had interviewed Mrs. Mohamed. What are some questions you think Mr. Mohamed asked?



STUDENTS DO: Use text to determine questions.

Note to Teacher: If students have difficulty forming questions, demonstrate how to change an answer to a question. For example, "She sells fruit at Corner Market," can be "What is Mrs. Mohamed's job?"

4. TEACHER SAY: Let's look again at the article Mr. Mohamed wrote. What are the important parts of the article? Read aloud an important section from the text and explain your thinking.



STUDENTS DO: Identify important phrases or sentences.

TEACHER DO: As each part is identified, name the correct vocabulary word and label it on the board as a list of WHO, WHAT, WHEN, WHERE, WHY, and HOW.

TEACHER SAY: These are the different types of questions that reporters ask in an interview: WHO, WHAT, WHEN, WHERE, WHY, and HOW. Other news articles also provide information in these categories. We will include these in each of our articles. Let's highlight what we have discovered in our student books. Take out your crayons and we will do this together.

TEACHER DO: Model for students by highlighting the WHO of Mr. Mohamed's sample interview with a specific color, such as yellow. Guide students to make a key at the bottom of the page to identify elements in the article. Once the WHO is identified, guide students to write WHO on the first line at the bottom of the page and highlight with the same color as in the story. Continue with the same process throughout the story.



STUDENTS DO: Highlight as directed.

Note to Teacher: In the next section, students will interview each other. You may wish to model an interview between yourself and one student to start, or you may want to invite another staff member from the school to interview as a model for the class.

5. TEACHER SAY: Let's practice asking questions and gathering information for an article. Each of you will work with another student in the class. You will interview each other and then write a short article about your partner. First, let's find your partner. Please choose someone you do not normally work with, using Hands Up Pair Up.

TEACHER DO: Lead students through the process of finding a new partner. Encourage students to work with someone they do not know well.

Communication



STUDENTS DO: Choose partners and sit together. (This is an opportunity to practice the Life Skill: Communication.)

TEACHER SAY: Let's Brainstorm some things we may not know about each other first. Then you may begin your interviews.

TEACHER DO: Facilitate student brainstorming categories or ideas such as: favorites (subject in school, sport, holiday, book), where they grew up, size of family, what they want to be when they grow up, and so on. Record suggested questions on the board.



STUDENTS DO: Share questions of interest.

TEACHER SAY: Now that we have a list of ideas, turn to the next page in your student book, My Questions and Answers, and we will get started.



STUDENTS DO: Review the page.

TEACHER SAY: Before we begin, think about what you want to know about your partner. What will the article be about? You may change your mind as you learn more about your

partner, and that is okay. For now, write five questions you want to ask your partner. Mark your questions as WHO, WHAT, WHEN, WHERE, WHY, or HOW.

 **STUDENTS DO:** List questions to ask partners.

TEACHER SAY: As you ask your questions, you will write the answers in the opposite column. You do not have to record every word your partner says, but try to record enough information that you will remember what was said later. Please also remember to be respectful listeners. You will each have 10 minutes to ask your questions.

 **STUDENTS DO:** Interview partners.

TEACHER DO: Monitor and circulate around the room as students interview each other. Notice if students are asking follow-up questions. If not, demonstrate how and why to ask probing questions. Tell students when the first 10 minutes has ended so they can switch roles.

6. TEACHER SAY: You did well interviewing each other. Our next step will be to interview people from our community. You should have an idea of who you will be interviewing. Do you think we should ask the same questions of them as you asked your classmate?

 **STUDENTS DO:** Respond (no).

TEACHER SAY: There are many things we can learn from the people we interview. Let's Brain-storm some of the things we would like to know.

Note to Teacher: Review the suggested questions below and adjust depending on the availability of community members for students to interview. You may wish to invite members of the school community, such as the school principal, other teachers or the custodians so that students can practice interviewing adults. You may choose to ask students to conduct the interviews as homework.

TEACHER DO: Discuss ideas with students, such as:

- Explain the idea of entrepreneurship. Who are some entrepreneurs within the community? What is the work they do and why is the new idea important?
- How does a specific occupation contribute to the community? Does the occupation protect community members or conserve the environment?
- How does what students learn at school help prepare them for a job in the future?
- What education is needed for their jobs?
- Did the person know they wanted to be (job) when they were a child?

 **STUDENTS DO:** Add ideas to the list.

TEACHER SAY: We have a good list started, but you may have some different questions you want to ask. Let's turn to the next page in the student book, Community Member Interview. It is just like the page you used to plan your interview with a peer. Who can tell us the steps to complete this page?

 **STUDENTS DO:** Explain how to complete the page.

TEACHER SAY: Think about what you want to know about the person you interview. Write your questions, and then cut out the page. Your assignment is to conduct the interview before our next lesson.

 **STUDENTS DO:** Record questions to ask a community member.

7. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: When reporters are working to gather information for a story, they ask a lot of questions. Some questions have interesting answers that help them learn, and some questions are less useful. This is okay and is part of the job. Let's share questions that helped you learn about your partner and other questions that did not help.

 **STUDENTS DO:** Share experiences interviewing.

Lesson 3

Overview

LEARNING OUTCOMES	MATERIALS	LIFE SKILLS
<p>Students will:</p> <ul style="list-style-type: none">Examine the structure of a news story.Write a news article about a member of the community or a classmate.Identify the characteristics of an interesting news event.	<ul style="list-style-type: none">Student booksPencilsCrayonsNewspapers	<p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">Identify subject/topic-related information.
PREPARATION		
<ul style="list-style-type: none">Prepare questions and responses to an interview or use an existing interview that students will not be using. These questions and responses will be used to Model writing an article from interview notes.Gather newspapers for students to read. If possible, have enough copies of papers for all students to read the same articles in small groups.If bringing in community members to be interviewed, consider extending this lesson by another day. Adjust the opening according to when the interview takes place.		<p>Learn to Live Together</p> <p>Sharing:</p> <ul style="list-style-type: none">Effective management and organization of tasks.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In our last lesson, you were able to interview a friend. Let's share some things we did not know about our friends before the interview.



STUDENTS DO: Share interview answers.

Note to Teacher: Students should use the interviews of community members, or if they were unable to complete that part of the previous lesson, students may use the interview they conducted with a classmate.

2. TEACHER SAY: It is fun learning about our friends. I hope you also learned a lot about others in our community. We will use those interviews to write articles for our class newspapers. If you did not interview someone, you will use the interview of your classmate. Let's take out your interview questions and answers and learn how to use them to write a newspaper article.



STUDENTS DO: Take out and review interviews.

TEACHER SAY: Do you remember the most important parts of a newspaper article?



STUDENTS DO: Respond (who, what, when, where, why, and how).

3. TEACHER SAY: If we just listed this information in order, do you think the article would be interesting to read? Why or why not?



STUDENTS DO: Share ideas.

TEACHER SAY: It is much more interesting to tell the information like a story. Let's look at the

newspapers again. With your group, find a short article in the newspaper to read. Label the five parts of the article. If you have time, find another article and do the same thing. Let's see how reporters organize their stories.

 **STUDENTS DO:** Work together in small groups to analyze articles.

Note to Teacher: If the reading is difficult for most students, use the same article to review as a whole group, reading sections aloud then asking students to identify which type of information is given (who, what, when, and so on). You may also decide to bring a group of struggling readers together to read and analyze an article with support.

Critical Thinking

TEACHER DO: Monitor student progress. After all students have had time to review one article, bring the class together. Have students **Hands Up Pair Up** to find a new partner. Partners share what they notice in the organization of the writing. This is an opportunity for students to practice the Life Skill: Critical Thinking.

 **STUDENTS DO:** Share observations about how articles are organized.

TEACHER SAY: You have had a chance to review at least one article. Do you think that all articles are organized the same way? Do all articles start with WHEN or HOW? Do they start with WHO or WHAT?

 **STUDENTS DO:** Respond with observations and reasoning.

TEACHER SAY: Usually a news article starts with WHO, WHAT, WHEN, and WHERE. These help the reader quickly understand what or who the story is about. Then reporters give details about the WHY and HOW to further explain the story.

 **STUDENTS DO:** Share opinions.

4. TEACHER SAY: Let's think about organizing our interview questions to write a newspaper article. I have questions and answers for a person I interviewed. Let's use these to practice writing an article. I will need your help to organize the writing like reporters do. We also need to write in complete sentences using descriptive words. Our goal is for our audience to want to learn about the person we interviewed.

TEACHER DO: Model writing a paragraph with student help. Follow the model, having students change phrases into complete sentences.

 **STUDENTS DO:** Guide teacher in composing a paragraph.

5. TEACHER SAY: Thank you for helping me write my article. Now it is your turn. Turn to the next page in your student book, *My Interview*.

TEACHER DO: Review the directions and page with the students. Discuss creating an interesting headline and writing the byline.

TEACHER SAY: You will have about 25 minutes to write your article. This will be your rough draft. If you finish ahead of the rest of us, edit your writing with someone else's help or on your own.

Sharing

 **STUDENTS DO:** Work independently. (This is an opportunity to practice the Life Skill: Sharing.)

Note to Teacher: Consider working with a small group of struggling writers, or pair struggling writers with a willing helper.

TEACHER DO: Monitor student progress and determine work time according to student needs. If students finish early, ask them to review the newspaper for articles about what is happening in the community. Bring students together once interviews have been finished.

TEACHER SAY: It is exciting to write our first articles. Let's share our writing with someone in the class. We will **Hands Up Pair Up** with a new student. Listen to each other's writing for the six parts to the story.



STUDENTS DO: Share writings and give feedback.

TEACHER SAY: I look forward to reading your articles. How do you think sharing interviews with our readers will help connect us to our community?



STUDENTS DO: Share ideas.

6. TEACHER SAY: Let's put aside this article and get ready for our next assignment. As newspaper reporters, we now have a new job to do. We are going to choose a news event to report on. Let's think first about a pretend event. Then we will discuss what you would want to know about it as the reader.

TEACHER DO: Present the following situation to the class:

- Pretend you hear a loud crash outside the classroom. Everyone looks through the window and sees a ladder, a car, spilled paint, and two people arguing.
- Ask students what they want to know. List questions on the board as students state them.
- Mark those questions that ask who, what, where, when, why, and how.
- Ask students why they would want information about the incident. (Possible responses would include: Because it is near the school, it might involve someone they know, someone could be hurt.)



STUDENTS DO: Respond to situation with ideas.

TEACHER SAY: This could be an interesting article. You were curious about what happened and wanted to know the facts. That is where you, the reporter, come in. For our next article, it will be important to think of an event that could invite the reader's curiosity. What do you think makes a story interesting to a reader?



STUDENTS DO: Begin to share ideas.

7. TEACHER SAY: Let's turn to the next page in our student book, News We Want To Read.

TEACHER DO: Read the student page together, reviewing each of the suggestions to find an interesting event.

TEACHER SAY: Now, what types of events at our school or in our community would interest our readers? Do they fit into any of the categories in our list? Think about ways we connect with our community.



STUDENTS DO: Brainstorm ideas.

TEACHER SAY: Record some of your ideas on the bottom of the page. You will choose one idea to report on in our next lesson.



STUDENTS DO: Record ideas.

8. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Let's share some of the news items you might report on. I will choose one of you to start and then we will Popcorn to others in the room.



STUDENTS DO: Share news events.

TEACHER SAY: Good job planning for our next articles today. In our next lesson, you will collect your information and write a rough draft.

Lesson 4

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">• Write an article about an important news event at the school or in the community.• Collaborate to improve writing.• Utilize strong opening and closing sentences in writing.	<ul style="list-style-type: none">• News event	<ul style="list-style-type: none">• Student books• Pencils• Crayons
PREPARATION	LIFE SKILLS	
Prepare a plan for writing a news article similar to students' assignment as a Model. Enlarge or use a display to share with students.	Learn to Live Together Sharing: <ul style="list-style-type: none">• Effective management and organization of tasks.	Learn to Work Collaboration: <ul style="list-style-type: none">• Respect for other opinions.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: On our first day of this chapter, we made a list of what we wanted to learn about our community. Let's review our list to see if any of our questions have been answered.

STUDENTS DO: Review questions and new answers.

2. TEACHER SAY: Today we will write a news article. Maybe we can answer more of those questions, or maybe we can inform our families about what they wanted to learn. How do you think an article about an event will be different from the interview articles we just finished? Turn to your **Shoulder Partner** to share.

STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER DO: Use **Calling Sticks** to select three or four students to share ideas with the class.

TEACHER SAY: How might the two styles of articles be similar?

STUDENTS DO: Share ideas.

TEACHER SAY: Let's turn to the next page in the student book, **Plan for Writing**, to think more about what we need to prepare for this new article. Review the page and then we discuss it together.

STUDENTS DO: Turn to and review student page.

TEACHER SAY: When selecting a news event, it is good to choose something that is familiar to you. Since we have a short timeline and not much time for research, your topic should be something you have experienced or know a lot about.

TEACHER DO: Lead students in a discussion of events at school or in the community that could be reported on. Remind students that their writing must be based on facts.

TEACHER SAY: Even though you may have experienced the event you are going to write about, who else might you ask for information?

TEACHER DO: Give an example, such as asking the principal about why an event was held at school.

 **STUDENTS DO:** Make suggestions.

TEACHER SAY: If there are a few of you who want to write about the same news event, you are welcome to work together to develop ideas. Each of you should work independently to write your final article after you have brainstormed ideas.

TEACHER DO: Guide students step-by-step through the Plan for Writing.

 **STUDENTS DO:** Complete plan.

Note to Teacher: If there is a group of students that needs more individualized instruction, work with the group on one news event, brainstorming ideas together.

3. TEACHER SAY: Let's share our plans. Be sure to listen closely to each other's ideas. Share ways to improve the rough draft. **Hands Up Pair Up** to find a new partner.

Collaboration

 **STUDENTS DO:** Pair up and share plan. (This is an opportunity to practice the Life Skill: Collaboration.)

TEACHERS DO: After sharing, bring students back together for a whole group discussion.

4. TEACHER SAY: Let's share what we learned in the previous lesson that will help us with our writing.

 **STUDENTS DO:** Share organization for writing, adding details, writing to an audience, and so on.

TEACHER DO: **Model** writing an article with student help. Use the organization model presented in the last lesson. **Model** writing strong opening and closing sentences for the article.

 **STUDENTS DO:** Help teacher form structure and sentences for model writing.

5. TEACHER SAY: Now it is time for you to write your rough draft. Turn to the next page in your student book, *My News Article*.

TEACHER DO: Review the directions with students. Tell students they will have 30 minutes to complete their writing.

Sharing

 **STUDENTS DO:** Work independently to complete news article. (This is an opportunity to practice the Life Skill: Sharing.)

TEACHER DO: Assist students as needed. Guide students to sound out words or to use a dictionary to find correct spelling. If students finish early, invite them to proofread their work or proofread someone else's writing. Bring students together when all have finished the rough draft.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Our class newspapers are going to be very interesting. How do you think the news articles in our newspaper will help connect us to our community?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Let's share our writings with someone else in the class. Choose someone in the class with whom you would like to share your writing. Be good listeners. Listen for the parts of a news article and strong opening and closing sentences.

 **STUDENTS DO:** Share writing and give feedback.

TEACHER DO: Monitor discussions. Give guidance as needed.

Lesson 5

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Identify the characteristics of a strong public service message.Produce a public service message for the class newspaper.Use text and graphics in a digital public service message.	<ul style="list-style-type: none">Public service message	<ul style="list-style-type: none">Student booksPencilsCrayonsComputers and graphics software (optional)
PREPARATION		<p>LIFE SKILLS</p> <p>Learn to Know</p> <p>Critical Thinking:</p> <ul style="list-style-type: none">Identify subject/topic-related information.
<p>Decide and plan logistics for whatever art media is available for creating the public service message (graphics software, paints, colored pencils, and so on). Have supplies available for student use.</p>		<p>Learn to Be</p> <p>Accountability:</p> <ul style="list-style-type: none">Provide effective feedback. <p>Communication:</p> <ul style="list-style-type: none">Reading, writing, non-verbal communication skills.



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: At the end of our last lesson, you shared your news events. Who would like to talk about their partner's writing? What is it you liked about your partner's news article?



STUDENTS DO: Share another student's work.

TEACHER DO: Choose three or four students to share.

2. TEACHER SAY: Thank you for sharing. We have now written two articles for our newspapers. Today we will do something a little different. We will design an advertisement for the newspaper. This advertisement is not to sell something, though. Instead its purpose is to convince our readers to do something that will improve our lives or community. Let's turn to the next page in our student book, Public Service Message. Read and follow the directions.



STUDENTS DO: Review advertisements.

TEACHER SAY: Talk with your **Shoulder Partner**. What are the messages in the advertisements? Why are they important?



STUDENTS DO: Share ideas with **Shoulder Partner**.

TEACHER SAY: What do you like about the advertisements or the messages?



STUDENTS DO: Share opinions about the advertisements.

TEACHER DO: Lead a deeper discussion into the advertisements on the page. Ask questions such as:

- What draws your eye to the advertisement?
- How do the colors affect the message?
- How are the words used to give a message?
- How do the messages affect you emotionally?

3. TEACHER SAY: A public service message encourages people to do something healthy or good for the community. Think about our school, family, and community. Let's begin by thinking about our family. What are some important messages about being a member of a family? Has your role in the family changed as you have grown older?

TEACHER DO: Lead the discussion toward understanding that there are specific roles within a family. What roles do students have at home? What rights do students have, such as an education and good health? Make a list on the board.



STUDENTS DO: Respond with experiences. (This is an opportunity to practice the Life Skill: Critical Thinking.)

TEACHER SAY: Maybe you want to produce a public service message to encourage your peers or younger siblings to embrace a certain role in their families. We have also studied much this year that affects our community and our school. What type of messages do you think could be important for us to share about health, or taking care of our world? What goals do we have for our public service announcement? Let's use **Think Time** before we begin sharing our ideas.

TEACHER DO: Allow at least two minutes of **Think Time**. Invite students to share ideas with table groups. If needed, prompt students with a review of health, environments, and habitats studied this year.

STUDENTS DO: Review experiences for ideas.

TEACHER SAY: It seems we have many ideas that we can share. Let's **Popcorn** our ideas and add them to our list on the board.

TEACHER DO: Choose a student to begin. List as many ideas as possible on the board.

STUDENTS DO: Listen and share ideas.

4. TEACHER SAY: I appreciate the thoughts and goals you have shared. Now it is time for you to produce your own public service message for our newspaper. Let's turn to the next page in the student book, *Planning a Message*.

TEACHER DO: Review the goals listed. Lead a discussion about how to reach the goals, then review the previous page to consider whether the goals have been achieved in the sample messages. Students should explain their reasoning and any improvements they suggest.

STUDENTS DO: Assess messages and share reasoning.

TEACHER SAY: Let's compose a message together. We will think about ways to make the message inviting to the reader and make our message clear.

TEACHER DO: Guide students to compose a message, such as reminding other students to pick up trash. Use questions to help students formulate ideas, such as:

- What can we use to draw the reader's eye to the advertisement?
- What colors will help our message?
- What words can we use to express the message?
- The model needs only to be a rough draft, identifying colors and placement of words and graphics.

STUDENTS DO: Guide the teacher to compose a model advertisement.

5. TEACHER SAY: Let's turn to the others at your table before we begin our own work. We have a list of ideas to start. Share with your table group the public service message you will produce.

Talk about the colors, words, and drawings you will include. This is a good time to ask for help from others at your table.



STUDENTS DO: Share ideas and ask for help.

TEACHER DO: Give any final directions and the amount of time provided to complete the rough draft.

Note to Teacher: Guide students to design messages using a graphics program on the computer if available. Students should use the student book to draw the rough draft before completing it on the computer. Students may work as a group rather than individually.

Communication



STUDENTS DO: Design a rough draft of the public service message. (This is an opportunity to practice the Life Skill: Communication.)

TEACHER DO: Monitor the classroom, asking probing questions to help students think through designs. Bring students back together for the next step.

TEACHER SAY: Now that you have finished your rough draft, let's ask a friend for feedback on your message. Listen to their ideas and make any changes that you choose to make. **Hands Up Pair Up** to find a partner.



STUDENTS DO: Give feedback and record ideas.

Note to Teacher: If students are using computers to produce the final version, the student page is not needed.

TEACHER SAY: Now turn to the next page in your student book, **Sending a Message**. This is the page you will use for your final copy. Are there any questions?



STUDENTS DO: Collect any needed supplies and begin final copies.

TEACHER DO: Monitor and assist as needed.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: I see some strong public service messages. Let's hold our final copies high above our heads so we can see some of the work others have done.



STUDENTS DO: Share messages with others.

TEACHER SAY: We have time for just a few comments. I will choose a few students to share a compliment about someone else's public service announcement.

TEACHER DO: Choose as many students to share as time allows.

Accountability



STUDENTS DO: Give positive feedback for another student's work. (This is an opportunity to practice the Life Skill: Accountability.)

TEACHER SAY: How do you think sharing a public service message helps connect us to our community?



STUDENTS DO: Share ideas.

Lesson 6

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Understand the characteristics of a cartoon.Produce a four-panel cartoon to share information about a topic.	<ul style="list-style-type: none">CartoonPanel	<ul style="list-style-type: none">Student books from both termsPencilsCrayonsScissorsMarkers
PREPARATION		LIFE SKILLS
<p>If possible, collect various examples of cartoons from local newspapers for students to analyze along with those provided in the student book. If student books from Term 1 are still in the classroom, have them available for students to review.</p>		Learn to Know
<p>Critical Thinking:</p> <ul style="list-style-type: none">Explain thinking processes.		Learn to Work
<p>Collaboration:</p> <ul style="list-style-type: none">Respect for other opinions.		Learn to Be
<p>Communication:</p> <ul style="list-style-type: none">Reading, writing, non-verbal communication skills.		Communication



Learn (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we explored another type of writing we might find in a newspaper—an advertisement. You designed a public service message that informed the reader about a topic or encouraged them to do good. Share with a **Shoulder Partner** what message you expressed in your advertisement.



STUDENTS DO: Share ideas.

2. **TEACHER SAY:** Today we are going to learn more about another part of the newspaper. Has anyone ever seen a cartoon? Show me a **Thumbs Up** if you have seen one.



STUDENTS DO: Show **Thumbs Up** to answer.

TEACHER SAY: A cartoon is a series of drawings in a newspaper that tells about a topic, usually in a funny way. There can be a small amount of text on the drawings, but the images tell most of the story. Let's take a look at a cartoon featuring Rashad and Yasmeen.

TEACHER DO: Hand out student books.

TEACHER SAY: Please turn in your student books to the page Rashad's Mixed-up Cartoon. This page includes a cartoon of Rashad and Yasmeen reading a newspaper. But the cartoon is a bit mixed up. Let's read the directions together.

TEACHER DO: Read the directions aloud or call on a student to read them. Explain that each picture of the cartoon is called a **PANEL**.



STUDENTS DO: Follow along as directions are read.

TEACHER SAY: After you cut out the panels and put them in order, raise your hand and I will check the order. Then we will discuss the cartoon.



STUDENTS DO: Cut out, then sequence cartoon panels.

TEACHER DO: Lead a class discussion about the cartoon using questions such as the following:

- Why did you put the pictures in the order that you did?
- How important is the sequence of the panels to telling the story?
- How is this format different from the other Rashad stories we have read?



This is an opportunity for students to practice the Life Skill: Critical Thinking.

3. TEACHER SAY: Thank you for sharing your ideas. We can see that there is a lot of thought that goes into creating a cartoon, even though there are not many words. Let's read another cartoon that has a different purpose. Turn to the page Goats and More Goats, read the directions, and then read the cartoon.



STUDENTS DO: Read directions and cartoon.

TEACHER DO: Allow time for students to read the cartoon with a partner.

TEACHER SAY: Let's talk about what we see in this cartoon. You will notice that cartoons do not take up much space. Because of this, cartoons focus on the main idea and the most important points of a topic, event, or message to be communicated. Just like a story, we can identify the characters, setting, and plot. Raise your hand if you can identify these.

TEACHER DO: Call on students with raised hands to identify the character, setting, and plot.



STUDENTS DO: Share ideas.

TEACHER SAY: Wonderful job. This story of the goats may sound familiar. Do you remember the simulation we did about how the number of goats changed as their needs in the environment changed? This cartoon demonstrates something you have learned earlier in the year, just in a different format than the graphs you drew.

Something else that is unique to this format is how dialogue and thoughts are shown. What do you notice about how the writer shows these?

TEACHER DO: Call on students until someone gives the correct answer (speech and thoughts are shown in bubbles of different shapes).

TEACHER SAY: Great. A speech bubble contains the character's words that are spoken out loud and a thought bubble shows what the character is thinking but does not say aloud. One last piece of cartoons are the captions. These are often used to give a quick narration or additional information about what is happening. Put your finger on the caption in this cartoon.



STUDENTS DO: Place fingers on the caption of the cartoon.

TEACHER SAY: Look back over the entire cartoon. How would including a cartoon such as this in our newspaper help connect us to our community? First turn to share ideas with a **Shoulder Partner**, then we will discuss as a class.



STUDENTS DO: Share ideas.

4. TEACHER SAY: You have done a wonderful job analyzing the cartoon. It is now your turn to make your own cartoon for your newspaper. The first step will be to decide on a topic for your cartoon. Let's develop a list of topics. We already discussed one topic—habitats and animal needs. You may use this topic if you like. Look through your student book to review all of the other topics you learned about this year. Raise your hand when you have a topic you would like to share.

 **STUDENTS DO:** Review student books and share topic ideas.

TEACHER DO: Record topic ideas on the board as students share.

TEACHER SAY: Thank you for helping us to develop this list. We really did learn about a lot of topics this year. We have so much we can share with others in the community. We will use **Think Time** to quietly read through this list and select one topic you are most interested in.

 **STUDENTS DO:** Quietly read and select a topic of interest.

TEACHER DO: Divide students into groups of four for this discussion.

TEACHER SAY: Now you will share your ideas about which topic you would like to use with your group. After everyone has had a chance to share, your group will select one topic. This is the topic everyone in your group will use to produce individual cartoons.

Collaboration

 **STUDENTS DO:** Discuss and select topic for cartoon. (This is an opportunity to practice the Life Skill: Collaboration.)

TEACHER SAY: It is time to draft a cartoon that shares information with our readers. Please turn in your student books to the page **Planning My Cartoon**. Read the directions and answer the questions with a **Shoulder Partner** from your group.

 **STUDENTS DO:** Read and follow directions.

5. TEACHER SAY: Now turn to the page **Cartoon Template**. You will tell your story using four panels. First, work in pencil to lightly draw your story.

Communication

*Note to Teacher: For students who need more support, consider **Modeling** how to map out a story across the four panels. Focus your demonstration on how to identify actions that will move the story forward, as well as what image might portray each action. Make the connection to the story students wrote in Theme 3, where the planning elements were “first,” “next,” “then” and “finally.” Students may wish to think of the four panels as corresponding to these parts of a mini story.*

TEACHER DO: Review each cartoon draft for accuracy. If there is time, ask students to use a pen or fine-tip marker to trace over the pencil lines. Students can then erase any remaining pencil marks.

 **STUDENTS DO:** Produce final cartoons.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we communicated what we learned about a topic by creating a cartoon. What was the easiest and what was the most difficult part about sharing what you have learned in this format?

TEACHER DO: Use **Calling Sticks** to select several students to share with the class.

 **STUDENTS DO:** Share thoughts about designing a cartoon.

Lesson 7

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Collaborate with a group to produce a newspaper.Contribute a piece of writing that shares information with the community.	<ul style="list-style-type: none">EditorGraphic designerLayout	<ul style="list-style-type: none">Student booksPencilsCrayonsLarge construction paperGlueScissorsMarkers
PREPARATION	LIFE SKILLS	
<p>Fold pieces of construction paper in half so that they open like a book. One folded sheet of construction paper will make four pages for the final newspaper. Groups of eight will require at least two pieces of folded construction paper. Make several copies of each type of writing template (interview, current event, advertisement, and cartoon).</p>	<p>Learn to Work</p> <p>Collaboration:</p> <ul style="list-style-type: none">Respect for other opinions. <p>Learn to Live Together</p> <p>Sharing:</p> <ul style="list-style-type: none">Effective management and organization of tasks. <p>Learn to Be</p> <p>Self-Management:</p> <ul style="list-style-type: none">Review progress in realizing goals.	



Learn (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we learned about how to tell a story or share information using a cartoon format. This format is very different from the other written articles we explored. How do the drawings and dialogue help to communicate your ideas?

TEACHER DO: Use **Calling Sticks** to choose three students to answer the question before continuing.



STUDENTS DO: Share ideas.

2. TEACHER SAY: Now that we have produced many different types of writing, you will work with a group to put the pieces together to make a complete newspaper. I will place you in groups now. Each group will produce a complete newspaper together. You will need to bring your student books with you to the group. I will give you the directions after all of the groups are formed.

TEACHER DO: Determine groups for students.

Note to Teacher: Divide students into groups of four or eight. For groups of four, student newspapers will contain one piece of each type of writing (interview, current event, advertisement, and cartoon). For larger groups, students will select two of each type of writing. The goal is for each student to contribute one piece of writing to be included in the group newspaper.

TEACHER SAY: The first step of creating the newspaper is to decide who is doing each task. Please turn in your student book to the page Newspaper Team Roles. Read the roles of the project and write the name of the person responsible for doing each task.

TEACHER DO: Support class as needed in reading and understanding the roles outlined on the student book page.



Sharing

STUDENTS DO: Read over the roles and assign the students responsible for each. (This is an opportunity to practice the Life Skill: Sharing.)

TEACHER SAY: Let's get started. Turn to the page titled Newspaper Plan. You will follow each step to plan and compile your newspaper. Be sure you work together and help each other. Remember, when you work through the steps to make decisions about your newspaper, respect the opinions of others. If you have any questions, Ask 3 Before Me.



Collaboration

STUDENTS DO: Work collaboratively to design a newspaper using pieces produced throughout the chapter. (This is an opportunity to practice the Life Skill: Collaboration.)

TEACHER DO: Provide a substantial amount of time for students to work. As students complete the planning stage, signal them in groups or as a whole class to move into producing the newspaper. Circulate around the room as students work, encouraging, and prompting students to think about the layout for each piece. Have an area set up where students can select a computer (or tablet) or art supplies as needed. Break up the work time periodically as needed to have students share progress or just take a short brain break. Remind students to refer back to the Newspaper Plan page often to track their group's progress toward completion. This is an opportunity for students to practice the Life Skill: Self-Management.

STUDENTS DO: Produce newspapers.

3. TEACHER SAY: Thank you for working so well together to produce your newspapers. I am excited to see how they turned out. I especially enjoyed seeing you use important life skills to accomplish a task together.

TEACHER DO: Lead a class discussion about the process of compiling a newspaper together, including questions such as the following:

- What surprised you the most about producing a classroom newspaper?
- What was your group's biggest challenge? How did you overcome it?

STUDENTS DO: Share ideas.

4. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: Today we collaborated to produce a newspaper with many kinds of writing that communicates ideas to the community. Turn to your group and identify your favorite piece of your newspaper and why.

STUDENTS DO: Reflect on group collaboration.

TEACHER SAY: Thank you. Tomorrow we will begin by sharing our newspapers with others in the class.

Lesson 8

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Analyze the characteristics of a mural.Calculate the area and perimeter of a mural using individual panels.Produce a draft of a panel for a class mural.	<ul style="list-style-type: none">AreaMural	<ul style="list-style-type: none">Student booksPencilsCrayonsWhite construction paper or card stockRulersMeter stick (optional)
PREPARATION		LIFE SKILLS
<p>Select construction paper, card stock, or regular paper that students will use to make panels for the group murals. Each student will need a piece of this paper to calculate the area of the completed group mural. In order to do this, students will need to know the total number of students in the group. The number of students in a group should be divisible by a whole number in order to make an array of panels. (For example, assign groups of 6, 8, 9, or 10 but not 7 or 11.) Locate the list of topics students generated in Lesson 6 and regroup the ideas using the following headings: Living Healthy in our Community, Taking Care of Our World with Our Community, Exploring Origins of Our Community, and Making Connections to Our Community.</p>		<p>Learn to Live Together</p> <p>Respect for Diversity:</p> <ul style="list-style-type: none">Solicit and respect multiple and diverse perspectives to broaden and deepen understanding.

Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: In the previous lesson, we worked in teams to produce newspapers that include all of the wonderful writing you have done throughout the chapter. Let's take a **Gallery Walk** to share our newspapers.

TEACHER DO: Instruct half of the students to stand by their newspaper to share it and half to read and listen to the writers' descriptions. Allow students to rotate to a few stations for sharing, and then have them switch places.

 **STUDENTS DO:** Share newspapers and explain how they communicate information with the community.

2. TEACHER SAY: Thank you for sharing your newspapers. I am very proud of the work you have done to share your learning from the year. When we share our learning, we have the opportunity to teach others about important topics. Our newspapers are one way we can share our learning. Art is another method we can use to share with the community. For our Share Project in this chapter, we are going to explore one particular type of art: a mural. Please turn in your student books to the page **Mural Photos**. Look at the pictures and share your observations with a **Shoulder Partner**.

 **STUDENTS DO:** Share observations with a partner.

TEACHER DO: Lead a class discussion about murals, including questions such as the following:

- After observing these images, what do you think a MURAL is?
- What is different about communicating through a mural and through a newspaper?
- What messages do these murals tell? Why do you think that?
- What do you like/not like about these murals?

- What effect do you think these murals have on the community where they are found?
- How do these murals encourage connections in the community?

3. TEACHER SAY: We can learn a lot from murals. We have a lot of learning we can share with others through this format. You will work together in your newspaper groups to make a mural by drawing, painting, or coloring. Each student will design one panel, with all group members' panels coming together to make a full mural. We will assemble the individual pieces together in groups on the classroom wall. Did you know that math can help us do art? How do you think math will help us?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: Those are great ideas. Before we begin drawing, we need to figure out how much space we need to hang our finished mural. Does anyone have an idea for how math can help us?

 **STUDENTS DO:** Share ideas.

TEACHER SAY: We will need to do some calculations. Please turn to the page titled Mural Math and read the directions with a **Shoulder Partner**. Then, answer the questions to calculate the perimeter and area of our completed mural.

 **STUDENTS DO:** Read and follow directions with partners.

TEACHER DO: Distribute to each student a piece of construction paper or card stock that will be used for the final mural panels. Students will also need a ruler to complete the calculations. Circulate around the room and assist students as needed. If time is available, have students identify wall space in the classroom, hallway, or public area of the school where they can hang their murals based on the dimensions calculated.

Note to Teacher: Students may need support in answering the final questions on the student book page. This is an opportunity to demonstrate how math concepts are applied in real-life situations. When measuring a space on a wall, the most helpful information is actually the dimensions (for example, a space 2 m by 3 m) rather than the area (6 m) or perimeter (10 m). If students struggle to reason an answer to this question, take time to walk through how each type of measurement could be useful (or confusing) in actually trying to measure space on a tangible wall. For example, an area of 6 m does not specify whether the mural is a row of 1 m by 6 m, 2 m by 3 m, or 3 m by 2 m.

4. TEACHER SAY: Thank you for helping me figure out how much wall space we need. I am looking forward to filling this space with your artwork. The mural will have the overall theme of how what we have learned throughout the year helps us connect to the community. Our next step in designing your group murals is to identify which topics we want to include. Let's review the list we developed when we made our cartoons.

TEACHER DO: Display the chart created in Lesson 6 listing the topics students learned about this school year grouped under the headings: Living Healthy in our Community, Taking Care of Our World with Our Community, Exploring Origins of Our Community, and Making Connections to Our Community. Connect this list to the various topics students included in group newspapers.

TEACHER SAY: Please turn in your student books to the page Mural Brainstorm. In your groups, decide which topic really interests you. This will be the topic of your group's mural. Once your group selects a topic, record it on the top line of the page to complete the sentence starter: How _____ helps us connect to community.



 **STUDENTS DO:** Discuss topic ideas and record selection in student books. (This is an opportunity to practice the Life Skill: Respect for Diversity.)

TEACHER SAY: Next you will individually develop a list of 10 words that come to mind when you think of the topic your group selected. These can be descriptive words, objects, actions, or anything important about your topic. Record these words on the numbered lines.

 **STUDENTS DO:** Record 10 words on brainstorming page.

TEACHER SAY: One of the challenges in communicating through a mural is that there are few, if any, words. We need to identify images that can communicate our words. Circle the four words in your list that you feel most strongly about. These four words should be words that you feel best capture what the topic is about. First write those four words in the column of the table labeled “My Word.” Then in the other column, record a symbol or drawing you could use to represent that word. For example, if one of your words is WARM, think about how you could show warm in a drawing. You might choose to write “orange” or “yellow” or draw a sun in the other column.



STUDENTS DO: Record four words and symbols or drawing ideas for the chosen topic.

5. TEACHER SAY: You have done some fantastic brainstorming. Now you will share your ideas with your group. Each of you will have the opportunity to present your four words and drawing ideas to the group. As a group, decide which drawing or symbols are the most powerful and put a star next to them. These are the things that as a group you will include in your mural panels. As you work to draft your individual panels, be sure to share with the rest of your group which ideas you are including in your images.



Respect for Diversity



STUDENTS DO: Discuss in groups which ideas to include on mural panels. (This is an opportunity to practice the Life Skill: Respect for Diversity.)

TEACHER DO: As students work, circulate around the room to provide assistance.

TEACHER SAY: In order to make all of your panels feel like they fit together to share one message, it will be important for each panel of your mural to have something in common. For example, if you are creating a mural about transportation, your group could decide that each panel must include a piece of a road. Another option would be to include common colors, so all of the panels feel like they belong together. What will help the panels of your mural fit together? Discuss this with your group. Your lists of words on the Mural Brainstorm page can give you good ideas.



STUDENTS DO: As a group, decide on a cohesive element to include in mural panels.

TEACHER SAY: The last step is to produce a draft of your mural panel. Turn in your student books to the page Mural Template. Follow along as I read the directions aloud.



READ ALOUD: Record your topic and the message you want to share with your mural panel. Sketch your mural panel in the box.



STUDENTS DO: Work individually to draft one panel for the group’s mural.

TEACHER DO: Circulate around the room, offering ideas and assistance as needed. Do not offer corrections or suggestions for improvement yet, as students will provide this to their peers in the next lesson.

6. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: I am very impressed with all of the creativity and collaboration you have shown today. For our closing, let’s think about our audience for the mural. What is our purpose in creating the mural? What do we hope to accomplish by creating it? Let’s **Popcorn** to share ideas.



STUDENTS DO: Popcorn to share ideas.

Lesson 9

Overview

LEARNING OUTCOMES	MATERIALS	PREPARATION
<p>Students will:</p> <ul style="list-style-type: none">• Give effective feedback.• Collaboratively produce a class mural.	<ul style="list-style-type: none">• Student books• Pencils• Crayons• Art supplies (paints, paint-brushes, colored pencils, and so on)	Gather a variety of art supplies for students to produce group murals.
		LIFE SKILLS
		Learn to Be Accountability: <ul style="list-style-type: none">• Provide effective feedback.
		Learn to Work Collaboration: <ul style="list-style-type: none">• Respect for other opinions.



Share (90 minutes)

Directions

1. Introduction: Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: Today we will begin to work on our final mural panels. You will work individually to produce your panel, while at the same time working with your group to make sure the panels fit together into one big picture. The picture you create will represent something you wrote about in your newspaper. Do you think words or pictures do a better job of sharing a message?

 **STUDENTS DO:** Respond with opinions.

TEACHER SAY: I am excited to see what your group creates. Use the art resources around the room as needed.

TEACHER DO: Point out any resources that can be used.

2. TEACHER SAY: Before we begin working, let's look at the rubric we will be using for this Share Project. Turn to the page *My Self-Assessment*. Read along with me as we review together.

TEACHER DO: Guide students through the expectations as outlined by the rubric. Answer any questions students may have.

TEACHER SAY: Now that you know your goals, let's begin by collecting initial materials that we need and meeting in our groups. As soon as everyone is ready, I will give you directions.

 **STUDENTS DO:** Collect art supplies and student books, then sit with groups.

3. TEACHER SAY: Before we start drawing and painting, you will have the opportunity to get feedback from your classmates. I have asked you to take your student book with you because you are going to help each other improve your designs with *2 Stars and a Wish*. You will not write in your own book. Instead, each student will give feedback to one other student in THEIR student book. That way everyone can keep the comments to read later. The "two stars" are two things that you really liked about your peer's mural panel. The "wish" is one way the mural design might be improved.

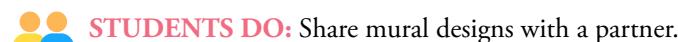
TEACHER DO: If needed, give examples in your classroom, using one page of a student's book. If students need extra structure, number off students within each group and assign, by numbers, who will review whose work.

TEACHER SAY: Let's turn to the page Our Mural Feedback. Read the directions silently.



STUDENTS DO: Read directions.

TEACHER DO: Make certain students know they are only to write in one other student's book.



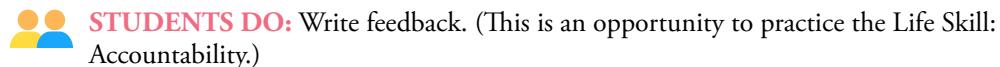
TEACHER SAY: While I was walking around, I heard some of your discussions about your mural designs. I am very proud of your work. Now it is your turn to give feedback.

TEACHER DO: Facilitate as students share. Review types of comments that are helpful. For example, a star could be, "I like that you used the maglev train. It helped me think about how transportation is changing." For a wish, a comment could be, "One thing I would like to see is more details in the drawing."

TEACHER SAY: Now it is time for you to write your feedback. Remember, you are writing in someone else's book. Please be thoughtful. We will have quiet time for everyone to finish.



Accountability



STUDENTS DO: Write feedback. (This is an opportunity to practice the Life Skill: Accountability.)

TEACHER DO: Walk around the classroom, making certain students are focused on doing their best work. Bring students back together after everyone has completed writing feedback.

4. TEACHER SAY: Thank you for giving thoughtful feedback to your classmates. Please take a few minutes to read over the feedback you received with your group.

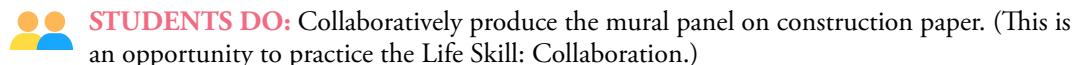


STUDENTS DO: Review feedback in student books.

TEACHER DO: You will now use that feedback to produce the final version of your piece of the mural. Each student will get a piece of paper. This is where you will draw your redesign, using the feedback you got from your classmates.

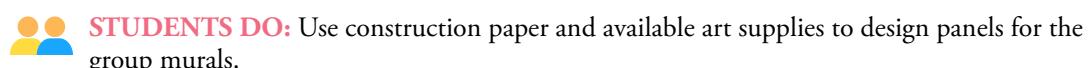


Collaboration



STUDENTS DO: Collaboratively produce the mural panel on construction paper. (This is an opportunity to practice the Life Skill: Collaboration.)

TEACHER DO: Answer any questions students may have at this time. Encourage students to talk together about design and to use the Mural Template to plan how they will design a piece of the mural. Monitor students and assist as needed. Allow students to work on mural panels for the remainder of the class time.



STUDENTS DO: Use construction paper and available art supplies to design panels for the group murals.

5. Closing: Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen. Students may be able to lead this routine at this point in the school year.

TEACHER SAY: I am so excited to see your mural panels. I know you are ready to share your pictures, but we will wait until our next lesson. Today, let's use our closing to share something about the process of creating our murals. How do you feel working individually to contribute to a group effort? Let's Popcorn so many students can share.



STUDENTS DO: Reflect on work experience.

Lesson 10

Overview

LEARNING OUTCOMES	KEY VOCABULARY	MATERIALS
<p>Students will:</p> <ul style="list-style-type: none">Present mural panels to the community or class.	<ul style="list-style-type: none">Redesign	<ul style="list-style-type: none">Student booksPencilsCrayonsTape
PREPARATION		LIFE SKILLS
<p>Set up several stations around the room where groups can present their murals. Prepare to have guests in the classroom if any family members have responded to the invitation distributed at the beginning of the chapter. If feasible, invite another class or other adults at school to join students for this lesson as they share the mural.</p>		<p>Learn to Be Communication:</p> <ul style="list-style-type: none">Reading, writing, non-verbal communication skills.



Share (90 minutes)

Directions

1. **Introduction:** Use the start of every class to reflect and review previous learning and/or to preview topics for today's lesson.

TEACHER SAY: I looked over your mural panels, and I am very excited to see them all put together. Let's take a minute to talk with your group. What do you need to prepare today to share your mural with others in the class?

STUDENTS DO: Reflect on work and necessary tasks.

TEACHER SAY: Now that our mural pieces are finished, it is time for us to share. We will share our murals with other groups [and our visitors].

TEACHER DO: Partner groups for sharing, and direct students to different areas of the room where they can share.

Communication

STUDENTS DO: Take supplies to the assigned section of the classroom and share group murals. (This is an opportunity to practice the Life Skill: Communication.)

Note to Teacher: If applicable, allow invited community members or other guests to ask students questions about their projects.

TEACHER SAY: Thank you for your wonderful presentations and for actively listening to others as they shared their work. Our final step of our Share Project is to complete the My Self-Assessment page in your student books.

2. **TEACHER DO:** Students should be familiar with the process at this point in the year. Review the procedure or content of the rubric as needed.

STUDENTS DO: Reflect on work to complete self-assessment.

3. **Closing:** Use the end of the class to reflect on learning. Encourage students to think, reflect, share, and listen.

TEACHER SAY: I hope you are all proud of the work you have done. We have just finished our last chapter in our theme, “Connections.” Please turn to your partners and thank them for connecting with you to share all of the wonderful learning you have done this year.



STUDENTS DO: Thank classmates for supporting learning.

Rubric Assessment (for teacher use)

	Approaching Expectation (1)	Meeting Expectation (2)	Exceeding Expectation (3)
Academic Content	Applies knowledge of area to determine the size of the group mural with help from peers or the teacher. <i>Math D.1.a., 5.e.</i>	Applies knowledge of area to determine the size of the group mural. <i>Math D.1.a., 5.e.</i>	Applies knowledge of area to determine the size of the group mural. Assists peers in this work. <i>Math D.1.a., 5.e.</i>
	Includes minimal details in individual panel of the group mural, detracting from the overall message being communicated by the group. <i>Visual Art A.2.c.</i>	Includes details in individual panel of the group mural that help to communicate the intended message. <i>Visual Art A.2.c.</i>	Includes intentional and creative details in individual panel of the group mural that enhance and clarify the intended message. <i>Visual Art A.2.c.</i>
	Contributes minimally as group members present the mural and its intended message to the audience. <i>Visual Art B.1.a.</i>	Presents the mural and its intended message to the audience. <i>Visual Art B.1.a.</i>	Presents the mural and its intended message with exceptional clarity to the audience. Serves as a role model for peers in this area. <i>Visual Art B.1.a.</i>
	Communicates and visually highlights connections within the community through art with help from peers and the teacher.	Communicates and visually highlights connections within the community through art.	Communicates effectively and highlights connections within the community through creative visuals and graphics.
Quality of Performance	Contributes minimally to the work of the group.	Contributes ideas and does a fair share of the group work.	Contributes ideas and does a fair share of the group work. Ensures that all group members have an equal voice and leads the group in this work.
	Supports the creativity of peers when creating a group mural but may need support to incorporate agreed-upon common elements in the individual panel.	Supports the creativity of peers when creating a group mural and effectively incorporates agreed-upon common elements in the individual panel.	Supports the creativity of peers when creating a group mural and incorporates agreed-upon common elements with exceptional creativity and unique ideas.
Life Skills	Listens to others' opinions and ideas with encouragement from peers or the teacher. <i>Respect for Diversity, Collaboration</i>	Listens to others' opinions and ideas, and contributes ideas for how multiple perspectives can be combined in the final product. <i>Respect for Diversity, Collaboration</i>	Listens to others' opinions and ideas, and leads the group in ensuring that all group members' opinions are honored. <i>Respect for Diversity, Collaboration</i>
	Explains the intended message of the mural created by his/her group with help from peers or the teacher. <i>Communication</i>	Explains the intended message of the mural created by his/her group with clarity. <i>Communication</i>	Explains the intended message of the mural created by his/her group with exceptional clarity. Serves as a role model for peers in this area. <i>Communication</i>

STUDENT RESOURCES

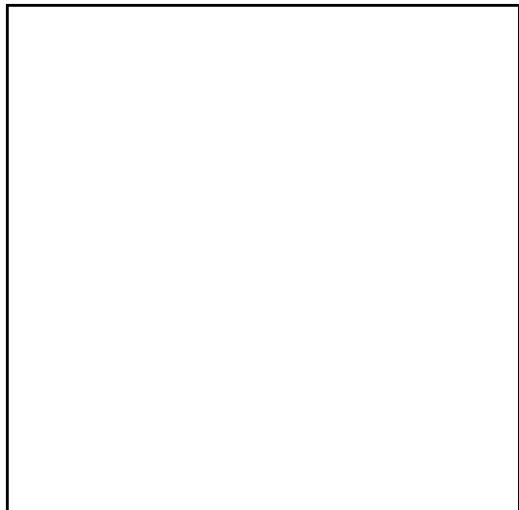
Transportation Simulation Cards



Interview Article Template

Headline: _____

By _____



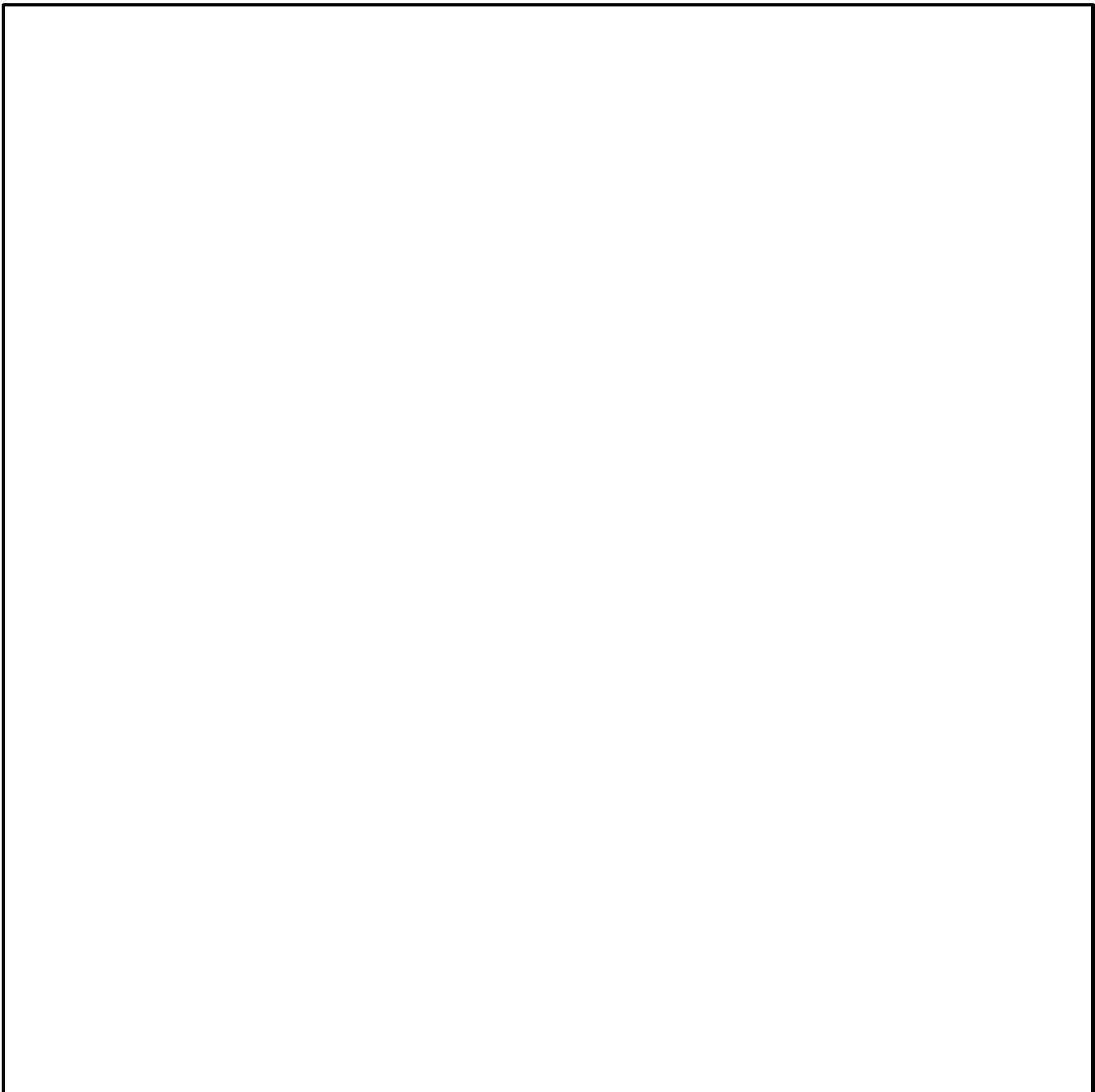
News / Current Event Article Template

Headline: _____

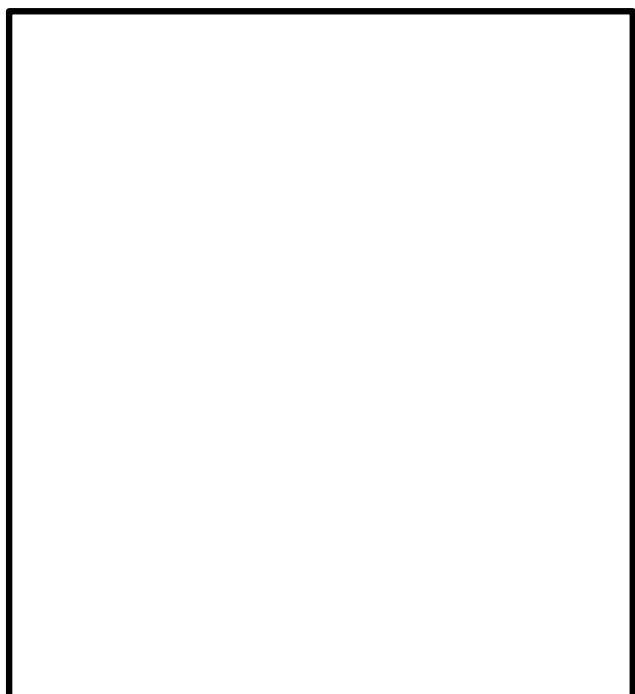
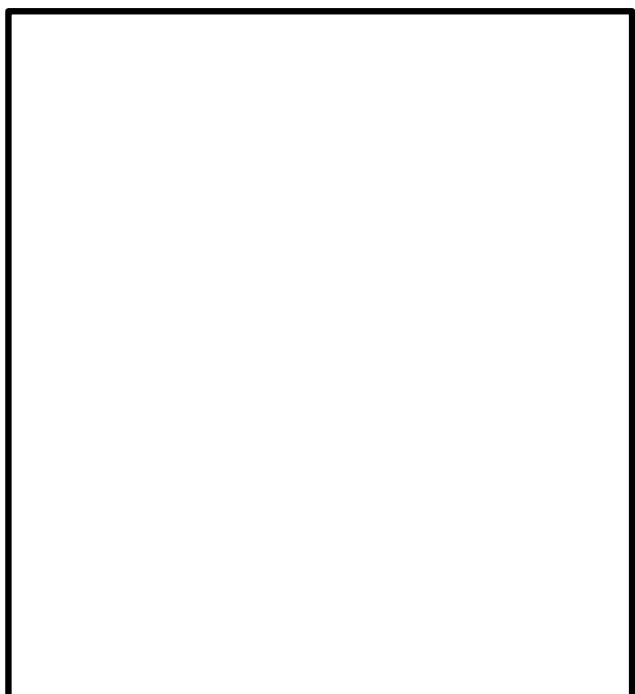
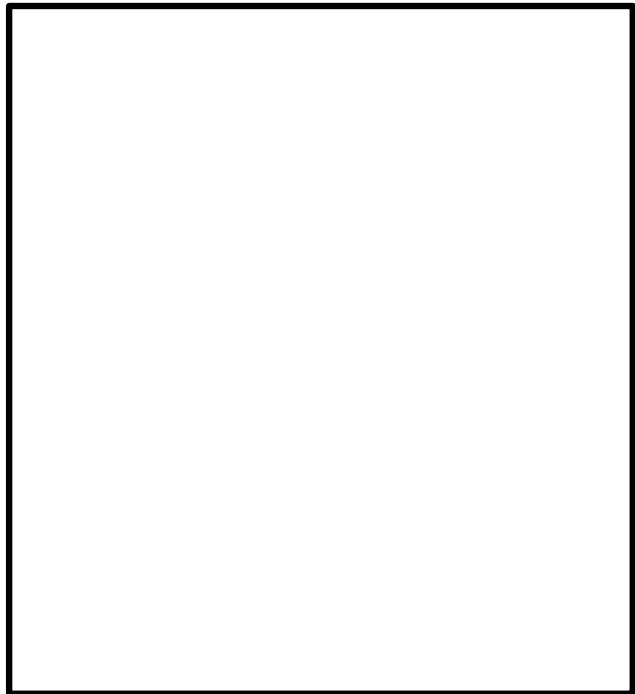
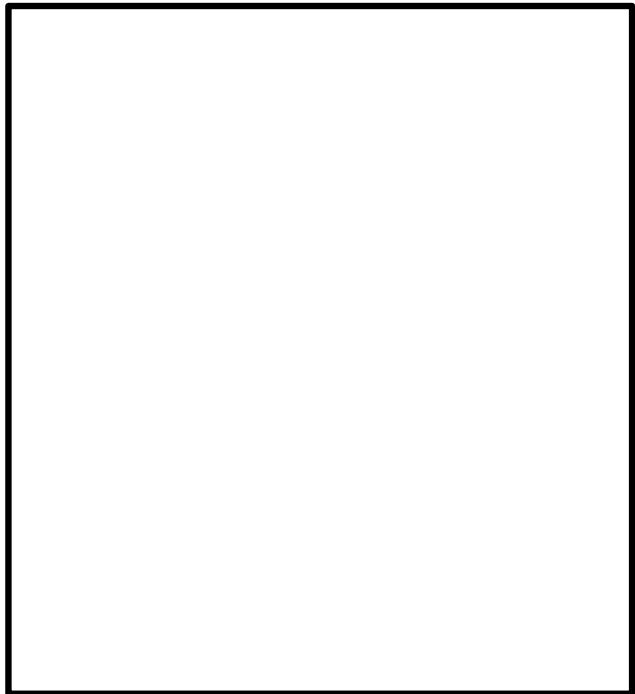
By _____



Advertisement Template



Cartoon Template



ARTIST CREDIT

Life Skill icon gst / Shutterstock.com
Discover icon imGhani / Shutterstock.com
Learn icon Piotr Przyluski / Shutterstock.com
Share icon Social Media Hub / Shutterstock.com
Students Do icon Anastasiika / Shutterstock.com
Read Aloud icon FLUTES / Shutterstock.com